

SEQUENCE LISTING

<110> Millennium Pharmaceuticals, Inc.
 Silos-Santiago, Inmaculada
 Karicheti, Venkateswarlu
 Eliasof, Scott D.

<120> METHODS AND COMPOSITIONS FOR TREATING
 PAIN AND PAINFUL DISORDERS USING 16386, 15402, 21165, 1423,
 636, 12303, 21425, 27410, 38554, 38555, 55063, 57145, 59914,
 94921, 16852, 33260, 58573, 30911, 85913, 14303, 16816,
 17827 OR 32620

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<151> 2003-02-04

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<151> 2003-03-05

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<151> 2003-07-30

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<213> Homo Sapiens

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Val Tyr Leu Val Ser Gln Gly Ala Asp Pro Asp Glu Ile Gly Leu Met
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Pro Tyr Arg Phe Leu Pro Ser Asp Leu His Asn Gly Asp Ser Lys Val
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Phe Cys Arg Arg Phe Met Asn Asp Lys Leu Gly Tyr Gly Ser Trp Phe
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Glu His Val Gln Glu Phe Trp Glu His Arg Met Asp Ser Asn Val Leu
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Phe Leu Lys Tyr Glu Asp Met His Arg Asp Leu Val Thr Met Val Glu
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 Thr Leu Thr Phe Lys Asp Pro Asp Val Tyr Ser Ala Lys Gln Glu Phe
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 Leu Phe Leu Thr Thr Met Pro Glu Val Arg Lys Leu Pro Glu Glu Lys
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 His Ile Pro Glu Glu Leu Lys Pro Thr Gly Lys Glu Leu Pro Asp Ser
 60 65 70
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 75 80 85
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 Asn Val Cys Arg Asp Asp Ala Leu Lys Asn Leu Ser His Thr Pro Val
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 Ser Lys Phe Val Leu Asp Arg Ile Phe Val Cys Asp Lys His Lys Ile
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Pro Thr Gly Lys Glu Leu Pro Asp Ser Gln Leu Val Gln Pro Leu Val
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Leu Lys Asn Leu Ser His Thr Pro Val Ser Lys Phe Val Leu Asp Arg
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Glu Arg Leu Ile Ser Ala Phe Lys Asp Lys Phe Val His Asn Pro Arg
195 200 205
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245 250 255
Gly Asp His Ile Ile His Trp Val Thr Tyr Val Glu Leu Cys Ala Pro
260 265 270
Cys Glu Ile Met Tyr Ser Val Ile Gly His His Glu Thr Leu Glu Asp
275 280 285
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 Gly Ile Met Leu Arg Glu Asn Val Lys Thr Ile Gly His Met Ile Arg
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 Leu Tyr Thr Asn Lys Asn Ser Thr Leu Asn Gly Thr Asp Tyr Pro Glu
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His	Leu	Ile	Pro	Met	Leu	Gln	Lys	Gln	Arg	Leu	Glu	Phe	Ala	Phe	Tyr	
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Ala	Ala	Val	Glu	Glu	Thr	Leu	Met	Asp	Ser	Thr	Thr	Ala	Thr	Ala	Glu	
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Leu	Gly	Trp	Met	Val	His	Pro	Pro	Ser	Gly	Trp	Glu	Glu	Val	Ser	Gly	
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Cys Ser Ser Ile Pro Ser Val Pro Gly Ser Cys Lys Glu Thr Phe Asn		100		105		110	
ctc tat tac tat gag gct gac ttt gac tcg gcc acc aag acc ttc ccc	384						
Leu Tyr Tyr Tyr Glu Ala Asp Phe Asp Ser Ala Thr Lys Thr Phe Pro		115		120		125	
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Asn Trp Met Glu Asn Pro Trp Val Lys Val Asp Thr Ile Ala Ala Asp		130		135		140	
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acc gag gtg cgg agc ttc gga cct gtg tcc cgc agc ggc ttc tac ctg	528						
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Phe Tyr Arg Lys Cys Pro Arg Ile Ile Gln Asn Gly Ala Ile Phe Gln		195		200		205	
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Pro Ser Gly Thr Phe Lys Ala Asn Gln Gly Asp Glu Ala Cys Thr His		275		280		285	
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His Thr Gln Tyr Thr Phe Glu Ile Gln Ala Val Asn Gly Val Thr Asp	
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<212> PRT

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Phe Glu Ser Ser Gln Asn Asn Trp Leu Arg Thr Lys Phe Ile Arg Arg
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Arg Gly Ala His Arg Ile His Val Glu Met Lys Phe Ser Val Arg Asp
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Pro Leu Asp Ile Phe Leu Glu Glu Ile Arg Phe Tyr Gln Leu Gly Asp
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Glu Ala Leu Ala Ala Phe Arg Glu Asp Glu Gly Cys Leu Pro Glu Gly
130         135         140
Gly Glu Asp Glu Lys Pro Leu Pro Ser Gln Pro Phe Gln Arg Gln Val
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Trp Leu Leu Phe Glu Tyr Pro Glu Ser Ser Gly Pro Ala Arg Gly Ile
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Ala Ile Val Ser Val Leu Val Ile Leu Ile Ser Ile Val Ile Phe Cys

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Arg	Ala	Leu	Glu	Gln	Pro	His	Glu	Gln	Gln	Ala	Gln	Arg	Glu	Leu	Gly		
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Ile	Phe	Tyr	Ala	Leu	Val	Gly	Ile	Pro	Leu	Phe	Gly	Ile	Leu	Leu	Ala		
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Leu Gly Glu Val Arg Glu Lys Phe Leu Arg Ala His Pro Cys Val Ser
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Asp Gln Glu Leu Gly Leu Leu Ile Lys Glu Val Ala Asp Ala Leu Gly
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Gly Gly Ala Asp Pro Glu Thr Asn Ser Thr Ser Asn Ser Ser His Ser
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Ala Trp Asp Leu Gly Ser Ala Phe Phe Phe Ser Gly Thr Ile Ile Thr
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Thr Ile Gly Tyr Gly Asn Val Ala Leu Arg Thr Asp Ala Gly Arg Leu
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Phe Cys Ile Phe Tyr Ala Leu Val Gly Ile Pro Leu Phe Gly Ile Leu
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Leu Ala Gly Val Gly Asp Arg Leu Gly Ser Ser Leu Arg His Gly Ile
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Gly His Ile Glu Ala Ile Phe Leu Lys Trp His Val Pro Pro Glu Leu
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Val Arg Val Leu Ser Ala Met Leu Phe Leu Leu Ile Gly Cys Leu Leu
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Phe Val Leu Thr Pro Thr Phe Val Phe Cys Tyr Met Glu Asp Trp Ser
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Lys Leu Glu Ala Ile Tyr Phe Val Ile Val Thr Leu Thr Thr Val Gly
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Phe Gly Asp Tyr Val Ala Gly Ala Asp Pro Arg Gln Asp Ser Pro Ala
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Tyr Gln Pro Leu Val Trp Phe Trp Ile Leu Leu Gly Leu Ala Tyr Phe
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Ala Ser Val Leu Thr Thr Ile Gly Asn Trp Leu Arg Val Val Ser Arg
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Thr Gly Thr Val Thr Ala Arg Val Thr Gln Arg Ala Gly Pro Ala Ala
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Pro Pro Pro Glu Lys Glu Gln Pro Leu Leu Pro Pro Pro Pro Cys Pro
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Ala Gln Pro Leu Gly Arg Pro Arg Ser Pro Ser Pro Pro Glu Lys Ala
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Cys	Pro	Leu	Pro	Arg	Ala	Pro	Arg	Gly	Arg	Arg	Pro	Asn	Pro	Pro	
	385				390					395				400	
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atg ccg gcc	atg cgg ggc	ctc ctg gcg	ccg cag aac	acc ttc ctg	gac	406									
Met	Pro	Ala	Met	Arg	Gly	Leu	Leu	Ala	Pro	Gln	Asn	Thr	Phe	Leu	Asp
1			5					10					15		

acc atc gct	acg cgc ttc	gac ggc acg	cac agt aac	ttc gtg ctg	ggc	454
Thr Ile Ala	Thr Arg Phe	Asp Gly Thr	His Ser Asn	Phe Val Leu	Gly	
	20		25	30		

aac gcc cag	gtg gcg ggg	ctc ttc ccc	gtg gtc tac	tgc tct gat	ggc	502
Asn Ala Gln	Val Ala Gly	Leu Phe Pro	Val Val Tyr	Cys Ser Asp	Gly	
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Phe Cys Asp	Leu Thr Gly	Phe Ser Arg	Ala Glu Val	Met Gln Arg	Gly	
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tgt gcc tgc	tcc ttc ctt	tat ggg cca	gac acc agt	gag ctc gtc	cgc	598
Cys Ala Cys	Ser Phe Leu	Tyr Gly Pro	Asp Thr Ser	Glu Leu Val	Arg	
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Gln Gln Ile	Arg Lys Ala	Leu Asp Glu	His Lys Glu	Phe Lys Ala	Glu	
	85	90	95			

ctg atc ctg	tac cgg aag	agc ggg ctc	ccg ttc tgg	tgt ctc ctg	gat	694
Leu Ile Leu	Tyr Arg Lys	Ser Gly Leu	Pro Phe Trp	Cys Leu Leu	Asp	
	100	105	110			

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Val Ile Pro	Ile Lys Asn	Glu Lys Gly	Glu Val Ala	Leu Phe Leu	Val	
	115	120	125			

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Ser His Lys	Asp Ile Ser	Glu Thr Lys	Asn Arg Gly	Gly Gly Xaa	Asp Arg	

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gtc ccc cat ggg ccc agc gag gca agg aac aca gac aca ctg gac aag Val Pro His Gly Pro Ser Glu Ala Arg Asn Thr Asp Thr Leu Asp Lys 865 870 875 880				2998

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Leu Arg Gln Ala Val Met Glu Leu Ser Glu Gln Val Leu Gln Met Arg	
885 890 895	
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Glu Gly Leu Gln Ser Leu Arg Gln Val Val Gln Leu Val Leu Ala Pro	
900 905 910	
cat agg gag ggt cca tgc cct cgg gcc tca gga gag ggg cca tgc cca	3142
His Arg Glu Gly Pro Cys Pro Arg Ala Ser Gly Glu Gly Pro Cys Pro	
915 920 925	
gcc agc acc tcc ggg ctt ctg cag cct ctg tgt gtg gac act ggg gca	3190
Ala Ser Thr Ser Gly Leu Leu Gln Pro Leu Cys Val Asp Thr Gly Ala	
930 935 940	
tcc tcc tac tgc ctg cag ccc cca gct ggc tct gtc ttg agt ggg act	3238
Ser Ser Tyr Cys Leu Gln Pro Pro Ala Gly Ser Val Leu Ser Gly Thr	
945 950 955 960	
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Trp Pro His Pro Arg Pro Gly Pro Pro Pro Leu Met Ala Pro Trp Pro	
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Trp Gly Pro Pro Ala Ser Gln Ser Ser Pro Trp Pro Arg Ala Thr Ala	
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Phe Trp Thr Ser Thr Ser Asp Ser Glu Pro Pro Ala Ser Gly Asp Leu	
995 1000 1005	
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Cys Ser Glu Pro Ser Thr Pro Ala Ser Pro Pro Pro Ser Glu Glu Gly	
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Ala Arg Thr Gly Pro Pro Glu Pro Val Ser Gln Ala Glu Ala Thr Ser	
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Thr Gly Glu Pro Pro Pro Val Ser Gly Gly Leu Ala Leu Pro Trp Asp	
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Pro His Ser Leu Glu Met Val Leu Ile Gly Cys His Gly Ser Gly Thr	
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Val Gln Trp Thr Gln Glu Glu Gly Thr Gly Val *	
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<210> 14
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<212> PRT
 <213> Homo Sapiens

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Cys	Ala	Cys	Ser	Phe	Leu	Tyr	Gly	Pro	Asp	Thr	Ser	Glu	Leu	Val	Arg
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Gln	Gln	Ile	Arg	Lys	Ala	Leu	Asp	Glu	His	Lys	Glu	Phe	Lys	Ala	Glu
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Leu	Ile	Leu	Tyr	Arg	Lys	Ser	Gly	Leu	Pro	Phe	Trp	Cys	Leu	Leu	Asp
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Val	Ile	Pro	Ile	Lys	Asn	Glu	Lys	Gly	Glu	Val	Ala	Leu	Phe	Leu	Val
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Ser	His	Lys	Asp	Ile	Ser	Glu	Thr	Lys	Asn	Arg	Gly	Gly	Xaa	Asp	Arg
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Trp	Lys	Glu	Thr	Gly	Gly	Gly	Arg	Arg	Arg	Tyr	Gly	Arg	Ala	Arg	Ser
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Lys	Gly	Phe	Asn	Ala	Asn	Arg	Arg	Arg	Ser	Arg	Ala	Val	Leu	Tyr	His
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Leu	Ser	Gly	His	Leu	Gln	Lys	Gln	Pro	Lys	Gly	Lys	His	Lys	Leu	Asn
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Ala	Thr	Trp	Asp	Gly	Phe	Ile	Leu	Leu	Ala	Thr	Leu	Tyr	Val	Ala	Val
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His	Ala	Phe	Lys	Val	Asn	Val	Tyr	Phe	Gly	Ala	His	Leu	Leu	Lys	Thr
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Val	Arg	Leu	Leu	Arg	Leu	Leu	Arg	Leu	Leu	Pro	Arg	Leu	Asp	Arg	Tyr
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Ser	Gln	Tyr	Ser	Ala	Val	Val	Leu	Thr	Leu	Leu	Met	Ala	Val	Phe	Ala
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Glu	Ile	Glu	Ser	Ser	Glu	Ser	Glu	Leu	Pro	Glu	Ile	Gly	Trp	Leu	Gln
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Glu	Leu	Ala	Arg	Arg	Leu	Glu	Thr	Pro	Tyr	Tyr	Leu	Val	Gly	Arg	Arg
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Pro	Ala	Gly	Gly	Asn	Ser	Ser	Gly	Gln	Ser	Asp	Asn	Cys	Ser	Ser	Ser

Ser 90	Leu	Leu	Ser	Asn	Thr 95	Thr	Ser	Met	Gly	Arg 100	Trp	Glu	Leu	Val	Gly 105	
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Ser	Phe	Phe	Phe	Ser	Val	Ser	Thr	Ile	Thr	Thr	Ile	Gly	Tyr	Gly	Asn	
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Leu	Val	Gly	Ile	Pro	Leu	Asn	Leu	Val	Val	Leu	Asn	Arg	Leu	Gly	His	
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Leu	Met	Gln	Gln	Gly	Val	Asn	His	Trp	Ala	Ser	Arg	Leu	Gly	Gly	Thr	
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tgg	cag	gat	cct	gac	aag	gcg	cgg	tgg	ctg	gcg	ggc	tct	ggc	gcc	ctc	822
Trp	Gln	Asp	Pro	Asp	Lys	Ala	Arg	Trp	Leu	Ala	Gly	Ser	Gly	Ala	Leu	
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Leu	Ser	Gly	Leu	Leu	Leu	Phe	Leu	Leu	Leu	Pro	Pro	Leu	Leu	Phe	Ser	
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His	Met	Glu	Gly	Trp	Ser	Tyr	Thr	Glu	Gly	Phe	Tyr	Phe	Ala	Phe	Ile	
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Thr	Leu	Ser	Thr	Val	Gly	Phe	Gly	Asp	Tyr	Val	Ile	Gly	Met	Asn	Pro	
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Ser	Gln	Arg	Tyr	Pro	Leu	Trp	Tyr	Lys	Asn	Met	Val	Ser	Leu	Trp	Ile	
	235					240					245					
ctc	ttt	ggg	atg	gca	tgg	ctg	gcc	ttg	atc	atc	aaa	ctc	atc	ctc	tcc	1062
Leu	Phe	Gly	Met	Ala	Trp	Leu	Ala	Leu	Ile	Ile	Lys	Leu	Ile	Leu	Ser	
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cag	ctg	gag	acg	cca	ggg	agg	gta	tgt	tcc	tgc	tgc	cac	cac	agc	tct	1110
Gln	Leu	Glu	Thr	Pro	Gly	Arg	Val	Cys	Ser	Cys	Cys	His	His	Ser	Ser	
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aag	gaa	gac	ttc	aag	tcc	caa	agc	tgg	aga	cag	gga	cct	gac	cgg	gag	1158
Lys	Glu	Asp	Phe	Lys	Ser	Gln	Ser	Trp	Arg	Gln	Gly	Pro	Asp	Arg	Glu	
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Pro	Glu	Ser	His	Ser	Pro	Gln	Gln	Gly	Cys	Tyr	Pro	Glu	Gly	Pro	Met	
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gga	atc	ata	cag	cat	ctg	gaa	cct	tct	gct	cac	gct	gca	ggc	tgt	ggc	1254
Gly	Ile	Ile	Gln	His	Leu	Glu	Pro	Ser	Ala	His	Ala	Ala	Gly	Cys	Gly	
	315				320				325							
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Lys	Asp	Ser	*													
330																

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Gln Asp Ser Ser Arg Ser Phe Gln Arg Asp Lys Trp Glu Leu Leu Gln
 50           55           60
Asn Phe Thr Cys Leu Asp Arg Pro Ala Leu Asp Ser Leu Ile Arg Asp
65           70           75           80
Val Val Gln Ala Tyr Lys Asn Gly Ala Ser Leu Leu Ser Asn Thr Thr
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Ser Met Gly Arg Trp Glu Leu Val Gly Ser Phe Phe Phe Ser Val Ser
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Thr Ile Thr Thr Ile Gly Tyr Gly Asn Leu Ser Pro Asn Thr Met Ala
      115           120           125
Ala Arg Leu Phe Cys Ile Phe Phe Ala Leu Val Gly Ile Pro Leu Asn
      130           135           140
Leu Val Val Leu Asn Arg Leu Gly His Leu Met Gln Gln Gly Val Asn
145           150           155           160
His Trp Ala Ser Arg Leu Gly Gly Thr Trp Gln Asp Pro Asp Lys Ala
          165           170           175
Arg Trp Leu Ala Gly Ser Gly Ala Leu Leu Ser Gly Leu Leu Phe
      180           185           190
Leu Leu Leu Pro Pro Leu Leu Phe Ser His Met Glu Gly Trp Ser Tyr
      195           200           205
Thr Glu Gly Phe Tyr Phe Ala Phe Ile Thr Leu Ser Thr Val Gly Phe
      210           215           220
Gly Asp Tyr Val Ile Gly Met Asn Pro Ser Gln Arg Tyr Pro Leu Trp
225           230           235           240
Tyr Lys Asn Met Val Ser Leu Trp Ile Leu Phe Gly Met Ala Trp Leu
          245           250           255
Ala Leu Ile Ile Lys Leu Ile Leu Ser Gln Leu Glu Thr Pro Gly Arg
          260           265           270
Val Cys Ser Cys Cys His His Ser Ser Lys Glu Asp Phe Lys Ser Gln
      275           280           285
Ser Trp Arg Gln Gly Pro Asp Arg Glu Pro Glu Ser His Ser Pro Gln
      290           295           300
Gln Gly Cys Tyr Pro Glu Gly Pro Met Gly Ile Ile Gln His Leu Glu
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Pro Ser Ala His Ala Gly Cys Gly Lys Asp Ser
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ttcagctctt tctgtgccct gggagctgag atgcacgtca gtggccttgc cagcgtggcc 180
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                                         Met Asp Thr Ser
                                         1

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Ser Lys Glu Asn Ile Gln Leu Phe Cys Lys Thr Ser Val Gln Pro Val
  5                      10                      15                      20

gga agg cct tct ttt aaa aca gaa tat ccc tcc tca gaa gaa aag caa 452
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cca tgc tgt ggt gaa cta aag gtg ttc ttg tgt gcc ttg tct ttt gtt 500
Pro Cys Cys Gly Glu Leu Lys Val Phe Leu Cys Ala Leu Ser Phe Val
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tac ttt gcc aaa gca ttg gca gaa ggc tat ctg aag agc acc atc act 548
Tyr Phe Ala Lys Ala Leu Ala Glu Gly Tyr Leu Lys Ser Thr Ile Thr
                55                      60                      65

cag ata gag aga agg ttt gat atc cct tct tca ctg gtg gga gtt att 596
Gln Ile Glu Arg Arg Phe Asp Ile Pro Ser Ser Leu Val Gly Val Ile
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gat ggt agt ttt gaa att ggg aat ctc tta gtt ata aca ttt gtt agc 644
Asp Gly Ser Phe Glu Ile Gly Asn Leu Leu Val Ile Thr Phe Val Ser
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tac ttt gga gcc aaa ctt cac agg cca aaa ata att gga gca ggg tgt 692
Tyr Phe Gly Ala Lys Leu His Arg Pro Lys Ile Ile Gly Ala Gly Cys
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gta atc atg gga gtt gga aca ctg ctc att gca atg cct cag ttc ttc 740
Val Ile Met Gly Val Gly Thr Leu Leu Ile Ala Met Pro Gln Phe Phe
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atg gag cag tac aaa tat gag aga tat tct cct tcc tcc aat tct act 788
Met Glu Gln Tyr Lys Tyr Glu Arg Tyr Ser Pro Ser Ser Asn Ser Thr
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ctc agc atc tct ccg tgt ctc cta gag tca agc agt caa tta cca gtt 836
Leu Ser Ile Ser Pro Cys Leu Leu Glu Ser Ser Ser Gln Leu Pro Val
                150                      155                      160

tca gtt atg gaa aaa tca aaa tcc aaa ata agt aac gaa tgt gaa gtg 884
Ser Val Met Glu Lys Ser Lys Ser Lys Ile Ser Asn Glu Cys Glu Val
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Arg	Gly	Ile	Gly	Glu	Thr	Pro	Ile	Gln	Pro	Leu	Gly	Ile	Ala	Tyr	Leu	
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gat	gat	ttt	gcc	agt	gaa	gac	aat	gca	gct	ttc	tat	att	ggg	tgt	gtg	1028
Asp	Asp	Phe	Ala	Ser	Glu	Asp	Asn	Ala	Ala	Phe	Tyr	Ile	Gly	Cys	Val	
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cag	acg	gtt	gca	att	ata	gga	cca	atc	ttt	ggc	ttc	ctg	tta	ggc	tca	1076
Gln	Thr	Val	Ala	Ile	Ile	Gly	Pro	Ile	Phe	Gly	Phe	Leu	Leu	Gly	Ser	
	230					235				240						
tta	tgt	gcc	aaa	cta	tat	gtt	gac	att	ggc	ttt	gta	aac	cta	gat	cac	1124
Leu	Cys	Ala	Lys	Leu	Tyr	Val	Asp	Ile	Gly	Phe	Val	Asn	Leu	Asp	His	
245					250				255						260	
ata	acc	att	acc	cca	aaa	gat	ccc	cag	tgg	gta	gga	gcc	tgg	tgg	ctt	1172
Ile	Thr	Ile	Thr	Pro	Lys	Asp	Pro	Gln	Trp	Val	Gly	Ala	Trp	Trp	Leu	
				265					270					275		
ggc	tat	cta	ata	gca	gga	atc	ata	agt	ctt	ctt	gca	gct	gtg	cct	ttc	1220
Gly	Tyr	Leu	Ile	Ala	Gly	Ile	Ile	Ser	Leu	Leu	Ala	Ala	Val	Pro	Phe	
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Trp	Tyr	Leu	Pro	Lys	Ser	Leu	Pro	Arg	Ser	Gln	Ser	Arg	Glu	Asp	Ser	
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Asn	Ser	Ser	Ser	Glu	Lys	Ser	Lys	Phe	Ile	Ile	Asp	Asp	His	Thr	Asp	
	310					315					320					
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Tyr	Gln	Thr	Pro	Gln	Gly	Glu	Asn	Ala	Lys	Ile	Met	Glu	Met	Ala	Arg	
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Asp	Phe	Leu	Pro	Ser	Leu	Lys	Asn	Leu	Phe	Gly	Asn	Pro	Val	Tyr	Phe	
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cta	tat	tta	tgt	aca	agc	act	gtt	cag	ttc	aat	tct	ctg	ttc	ggc	atg	1460
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Val	Thr	Tyr	Lys	Pro	Lys	Tyr	Ile	Glu	Gln	Gln	Tyr	Gly	Gln	Ser	Ser	
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Ser	Arg	Ala	Asn	Phe	Val	Ile	Gly	Leu	Ile	Asn	Ile	Pro	Ala	Val	Ala	
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Leu	Gly	Ile	Phe	Ser	Gly	Gly	Ile	Val	Met	Lys	Lys	Phe	Arg	Ile	Ser	
405					410					415					420	
gtg	tgt	gga	gct	gca	aaa	ctc	tac	ttg	gga	tca	tct	gtc	ttt	ggc	tac	1652
Val	Cys	Gly	Ala	Ala	Lys	Leu	Tyr	Leu	Gly	Ser	Ser	Val	Phe	Gly	Tyr	
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Ala Gly Leu Thr Val Ser Tyr Gln Gly Thr Lys Pro Val Ser Tyr His	
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Glu Arg Ala Leu Phe Ser Asp Cys Asn Ser Arg Cys Lys Cys Ser Glu	
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Thr Lys Trp Glu Pro Met Cys Gly Glu Asn Gly Ile Thr Tyr Val Ser	
485 490 495 500	
gct tgt ctt gct ggt tgt caa acc tcc aac agg agt gga aaa aat att	1892
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505 510 515	
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Ile Phe Tyr Asn Cys Thr Cys Val Gly Ile Ala Ala Ser Lys Ser Gly	
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Asn Ser Ser Gly Ile Val Gly Arg Cys Gln Lys Asp Asn Gly Cys Pro	
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Gln Met Phe Leu Tyr Phe Leu Val Ile Ser Val Ile Thr Ser Tyr Thr	
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Leu Ser Leu Gly Gly Ile Pro Gly Tyr Ile Leu Leu Leu Arg Cys Ile	
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Lys Pro Gln Leu Lys Ser Phe Ala Leu Gly Ile Tyr Thr Leu Ala Ile	
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Arg Val Leu Ala Gly Ile Pro Ala Pro Val Tyr Phe Gly Val Leu Ile	
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gat act tca tgc ctc aaa tgg gga ttt aaa aga tgt gga agt aga gga	2228
Asp Thr Ser Cys Leu Lys Trp Gly Phe Lys Arg Cys Gly Ser Arg Gly	
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tca tgc aga tta tat gat tca aat gtc ttc aga cat ata tat ctg gga	2276
Ser Cys Arg Leu Tyr Asp Ser Asn Val Phe Arg His Ile Tyr Leu Gly	
630 635 640	
cta act gtg ata ctg ggc aca gtg tca att ctc cta agc att gca gta	2324
Leu Thr Val Ile Leu Gly Thr Val Ser Ile Leu Leu Ser Ile Ala Val	
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ctt ttc att tta aag aaa aat tat gtt tca aaa cac aga agt ttt ata	2372
Leu Phe Ile Leu Lys Lys Asn Tyr Val Ser Lys His Arg Ser Phe Ile	
665 670 675	
acc aag aga gaa aga aca atg gtg tct aca aga ttc caa aag gaa aat	2420

Thr Lys Arg Glu Arg Thr Met Val Ser Thr Arg Phe Gln Lys Glu Asn
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 tac act aca agt gat cat ctg cta caa ccc aac tac tgg cca ggc aag 2468
 Tyr Thr Thr Ser Asp His Leu Gln Pro Asn Tyr Trp Pro Gly Lys
 695 700 705
 gaa act caa ctt tag aaacatgatg actggaagtc atgtcttcta attgggttgac 2523
 Glu Thr Gln Leu *
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 35 40 45
 Leu Ser Phe Val Tyr Phe Ala Lys Ala Leu Ala Glu Gly Tyr Leu Lys
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 Ser Thr Ile Thr Gln Ile Glu Arg Arg Phe Asp Ile Pro Ser Ser Leu
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 Val Gly Val Ile Asp Gly Ser Phe Glu Ile Gly Asn Leu Leu Val Ile
 85 90 95
 Thr Phe Val Ser Tyr Phe Gly Ala Lys Leu His Arg Pro Lys Ile Ile
 100 105 110
 Gly Ala Gly Cys Val Ile Met Gly Val Gly Thr Leu Leu Ile Ala Met
 115 120 125
 Pro Gln Phe Phe Met Glu Gln Tyr Lys Tyr Glu Arg Tyr Ser Pro Ser
 130 135 140
 Ser Asn Ser Thr Leu Ser Ile Ser Pro Cys Leu Leu Glu Ser Ser Ser
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 Gln Leu Pro Val Ser Val Met Glu Lys Ser Lys Ser Lys Ile Ser Asn
 165 170 175
 Glu Cys Glu Val Asp Thr Ser Ser Ser Met Trp Ile Tyr Val Phe Leu
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 Gly Asn Leu Leu Arg Gly Ile Gly Glu Thr Pro Ile Gln Pro Leu Gly
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 Ile Ala Tyr Leu Asp Asp Phe Ala Ser Glu Asp Asn Ala Ala Phe Tyr
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 Ile Gly Cys Val Gln Thr Val Ala Ile Ile Gly Pro Ile Phe Gly Phe
 225 230 235 240
 Leu Leu Gly Ser Leu Cys Ala Lys Leu Tyr Val Asp Ile Gly Phe Val
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Arg	Glu	Asp	Ser	Asn	Ser	Ser	Ser	Glu	Lys	Ser	Lys	Phe	Ile	Ile	Asp	
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Asp	His	Thr	Asp	Tyr	Gln	Thr	Pro	Gln	Gly	Glu	Asn	Ala	Lys	Ile	Met	
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Glu	Met	Ala	Arg	Asp	Phe	Leu	Pro	Ser	Leu	Lys	Asn	Leu	Phe	Gly	Asn	
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Pro	Ala	Val	Ala	Leu	Gly	Ile	Phe	Ser	Gly	Gly	Ile	Val	Met	Lys	Lys	
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Phe	Arg	Ile	Ser	Val	Cys	Gly	Ala	Ala	Lys	Leu	Tyr	Leu	Gly	Ser	Ser	
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Gly	Lys	Asn	Ile	Ile	Phe	Tyr	Asn	Cys	Thr	Cys	Val	Gly	Ile	Ala	Ala	
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Asn	Gly	Cys	Pro	Gln	Met	Phe	Leu	Tyr	Phe	Leu	Val	Ile	Ser	Val	Ile	
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Thr	Ser	Tyr	Thr	Leu	Ser	Leu	Gly	Gly	Ile	Pro	Gly	Tyr	Ile	Leu	Leu	
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Leu	Arg	Cys	Ile	Lys	Pro	Gln	Leu	Lys	Ser	Phe	Ala	Leu	Gly	Ile	Tyr	
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Thr	Leu	Ala	Ile	Arg	Val	Leu	Ala	Gly	Ile	Pro	Ala	Pro	Val	Tyr	Phe	
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Gly	Val	Leu	Ile	Asp	Thr	Ser	Cys	Leu	Lys	Trp	Gly	Phe	Lys	Arg	Cys	
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Gly	Ser	Arg	Gly	Ser	Cys	Arg	Leu	Tyr	Asp	Ser	Asn	Val	Phe	Arg	His	
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Ile	Tyr	Leu	Gly	Leu	Thr	Val	Ile	Leu	Gly	Thr	Val	Ser	Ile	Leu	Leu	
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Ser	Ile	Ala	Val	Leu	Phe	Ile	Leu	Lys	Lys	Asn	Tyr	Val	Ser	Lys	His	
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Arg	Ser	Phe	Ile	Thr	Lys	Arg	Glu	Arg	Thr	Met	Val	Ser	Thr	Arg	Phe	
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Gln	Lys	Glu	Asn	Tyr	Thr	Thr	Ser	Asp	His	Leu	Leu	Gln	Pro	Asn	Tyr	
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gag	ctg	cag	ggg	gac	gag	gcg	cag	agg	aac	aag	aaa	aag	aaa	aag	aag	96
Glu	Leu	Gln	Gly	Asp	Glu	Ala	Gln	Arg	Asn	Lys	Lys	Lys	Lys	Lys	Lys	
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gtg	tcc	tgc	ttt	tcc	aac	atc	aag	atc	ttc	ctg	gtg	tcc	gag	tgc	gcc	144
Val	Ser	Cys	Phe	Ser	Asn	Ile	Lys	Ile	Phe	Leu	Val	Ser	Glu	Cys	Ala	
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Leu	Met	Leu	Ala	Gln	Gly	Thr	Val	Gly	Ala	Tyr	Leu	Val	Ser	Val	Leu	
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acc	acc	ctg	gag	cgt	agg	ttc	aac	ctg	cag	agc	gct	gac	gtg	ggt	gtg	240
Thr	Thr	Leu	Glu	Arg	Arg	Phe	Asn	Leu	Gln	Ser	Ala	Asp	Val	Gly	Val	
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atc	gct	agc	agc	ttc	gag	atc	ggg	aac	ctg	gcg	ctc	atc	ctc	ttc	gtg	288
Ile	Ala	Ser	Ser	Phe	Glu	Ile	Gly	Asn	Leu	Ala	Leu	Ile	Leu	Phe	Val	
				85					90					95		
agc	tac	ttc	ggg	gca	cgc	ggg	cac	cgg	ccg	cgc	ctg	atc	ggc	tgc	ggc	336
Ser	Tyr	Phe	Gly	Ala	Arg	Gly	His	Arg	Pro	Arg	Leu	Ile	Gly	Cys	Gly	
			100					105					110			
ggc	atc	gtc	atg	gcg	ctg	ggc	gcg	ctg	ctg	tcg	gcg	ctg	ccc	gag	ttc	384
Gly	Ile	Val	Met	Ala	Leu	Gly	Ala	Leu	Leu	Ser	Ala	Leu	Pro	Glu	Phe	
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Leu	Thr	His	Gln	Tyr	Lys	Tyr	Glu	Ala	Gly	Glu	Ile	Arg	Trp	Gly	Ala	
	130					135					140					
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Glu	Gly	Arg	Asp	Val	Cys	Ala	Ala	Asn	Gly	Ser	Gly	Gly	Asp	Glu	Gly	
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Pro	Asp	Pro	Asp	Leu	Ile	Cys	Arg	Asn	Arg	Thr	Ala	Thr	Asn	Met	Met	
				165					170					175		
tac	ttg	ctg	ctc	att	ggg	gcc	cag	gtg	ctc	ctg	ggc	atc	ggt	gct	acc	576
Tyr	Leu	Leu	Leu	Ile	Gly	Ala	Gln	Val	Leu	Leu	Gly	Ile	Gly	Ala	Thr	
			180					185					190			
cct	gtg	cag	ccc	ctg	ggc	gtc	tcc	tac	atc	gac	gac	cac	gtg	cgg	agg	624
Pro	Val	Gln	Pro	Leu	Gly	Val	Ser	Tyr	Ile	Asp	Asp	His	Val	Arg	Arg	
		195					200					205				
aag	gac	tcc	tcg	ctc	tat	ata	gga	atc	ctg	ttc	acg	atg	ctg	gta	ttt	672
Lys	Asp	Ser	Ser	Leu	Tyr	Ile	Gly	Ile	Leu	Phe	Thr	Met	Leu	Val	Phe	

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gtg gat gcg gtc ttc att gac aca agt aac ctg gac atc act ccg gac Val Asp Ala Val Phe Ile Asp Thr Ser Asn Leu Asp Ile Thr Pro Asp 245 250 255			768
gac ccc cgc tgg atc gga gcc tgg tgg ggt ggc ttt ctg ctc tgc ggt Asp Pro Arg Trp Ile Gly Ala Trp Trp Gly Gly Phe Leu Leu Cys Gly 260 265 270			816
gcc tta ctc ttc ttc tct tcc ctc ttg atg ttt ggg ttt cca cag tcc Ala Leu Leu Phe Phe Ser Ser Leu Leu Met Phe Gly Phe Pro Gln Ser 275 280 285			864
ctg ccc ccg cac tca gac ccc gcc atg gaa agc gag cag gcc atg ctc Leu Pro Pro His Ser Asp Pro Ala Met Glu Ser Glu Gln Ala Met Leu 290 295 300			912
tcc gaa aga gaa tac gag aga ccc aag ccc agc aac ggg gtc ctg agg Ser Glu Arg Glu Tyr Glu Arg Pro Lys Pro Ser Asn Gly Val Leu Arg 305 310 315 320			960
cac ccc ctg gag cca gac agc agt gcc tcc tgt ttc cag cag ctg aga His Pro Leu Glu Pro Asp Ser Ser Ala Ser Cys Phe Gln Gln Leu Arg 325 330 335			1008
gtg atc ccg aag gtc acc aag cac ctg ctc tca aac cct gtg ttc acc Val Ile Pro Lys Val Thr Lys His Leu Leu Ser Asn Pro Val Phe Thr 340 345 350			1056
tgc atc atc ctg gcc gcc tgc atg gag att gca gtg gtg gct ggc ttc Cys Ile Ile Leu Ala Ala Cys Met Glu Ile Ala Val Val Ala Gly Phe 355 360 365			1104
gct gcc ttt ttg ggg aag tac ctg gag cag cag ttt aac ctc acc acc Ala Ala Phe Leu Gly Lys Tyr Leu Glu Gln Gln Phe Asn Leu Thr Thr 370 375 380			1152
tct tct gcc aac cag ctg ctt ggg atg act gcg atc ccg tgt gct tgt Ser Ser Ala Asn Gln Leu Leu Gly Met Thr Ala Ile Pro Cys Ala Cys 385 390 395 400			1200
ctg ggt atc ttc ctg gga ggt ctt ttg gtg aag aag ctc agc ctg tct Leu Gly Ile Phe Leu Gly Gly Leu Leu Val Lys Lys Leu Ser Leu Ser 405 410 415			1248
gcc ctg ggg gcc att cgg atg gcc atg ctc gtc aac ctg gtg tcc act Ala Leu Gly Ala Ile Arg Met Ala Met Leu Val Asn Leu Val Ser Thr 420 425 430			1296
gct tgc tac gtc tcc ttc ctc ttc ctg ggc tgc gac act ggc cct gtg Ala Cys Tyr Val Ser Phe Leu Phe Leu Gly Cys Asp Thr Gly Pro Val 435 440 445			1344
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Cys Phe Ala Gly Cys Asn Ser Thr Asn Leu Thr Gly Cys Ala Cys Leu	
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acc acc gtc cct gct gag aac gca acc gtg gtt cct gga aaa tgc ccc	1584
Thr Thr Val Pro Ala Glu Asn Ala Thr Val Val Pro Gly Lys Cys Pro	
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Leu Ile Arg Thr Val Ser Pro Glu Leu Lys Ser Tyr Ala Leu Gly Val	
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Leu Phe Leu Leu Leu Arg Leu Leu Gly Phe Ile Pro Pro Pro Leu Ile	
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Phe Gly Ala Gly Ile Asp Ser Thr Cys Leu Phe Trp Ser Thr Phe Cys	
595 600 605	
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Gly Glu Gln Gly Ala Cys Val Leu Tyr Asp Asn Val Val Tyr Arg Tyr	
610 615 620	
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Leu Tyr Val Ser Ile Ala Ile Ala Leu Lys Ser Phe Ala Phe Ile Leu	
625 630 635 640	
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Tyr Thr Thr Thr Trp Gln Cys Leu Arg Lys Asn Tyr Lys Arg Tyr Ile	
645 650 655	
aaa aac cac gag ggc ggg ctg agc acc agt gag ttc ttt gcc tct act	2016
Lys Asn His Glu Gly Gly Leu Ser Thr Ser Glu Phe Phe Ala Ser Thr	
660 665 670	
ctg acc cta gac aac ctg ggg agg gac cct gtg ccc gca aac cag aca	2064
Leu Thr Leu Asp Asn Leu Gly Arg Asp Pro Val Pro Ala Asn Gln Thr	
675 680 685	
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His Arg Thr Lys Phe Ile Tyr Asn Leu Glu Asp His Glu Trp Cys Glu	
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aac atg gag tcc gtt tta tag	2133
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705

710

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<212> PRT

<213> Homo Sapiens

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Val	Ser	Cys 35	Phe	Ser	Asn	Ile	Lys 40	Ile	Phe	Leu	Val	Ser 45	Glu	Cys	Ala
Leu	Met 50	Leu	Ala	Gln	Gly	Thr 55	Val	Gly	Ala	Tyr	Leu 60	Val	Ser	Val	Leu
Thr 65	Thr	Leu	Glu	Arg 70	Arg	Phe	Asn	Leu	Gln	Ser 75	Ala	Asp	Val	Gly	Val 80
Ile	Ala	Ser	Ser	Phe 85	Glu	Ile	Gly	Asn 90	Leu	Ala	Leu	Ile	Leu	Phe 95	Val
Ser	Tyr	Phe	Gly 100	Ala	Arg	Gly	His 105	Arg	Pro	Arg	Leu	Ile	Gly 110	Cys	Gly
Gly	Ile	Val 115	Met	Ala	Leu	Gly	Ala 120	Leu	Leu	Ser	Ala	Leu 125	Pro	Glu	Phe
Leu	Thr 130	His	Gln	Tyr	Lys	Tyr 135	Glu	Ala	Gly	Glu	Ile 140	Arg	Trp	Gly	Ala
Glu 145	Gly	Arg	Asp	Val 150	Cys	Ala	Ala	Asn	Gly	Ser 155	Gly	Gly	Asp	Glu	Gly 160
Pro	Asp	Pro	Asp	Leu 165	Ile	Cys	Arg	Asn 170	Arg	Thr	Ala	Thr	Asn	Met 175	Met
Tyr	Leu	Leu	Leu 180	Ile	Gly	Ala	Gln	Val 185	Leu	Leu	Gly	Ile	Gly 190	Ala	Thr
Pro	Val 195	Gln	Pro	Leu	Gly	Val	Ser 200	Tyr	Ile	Asp	Asp	His 205	Val	Arg	Arg
Lys	Asp 210	Ser	Ser	Leu	Tyr	Ile 215	Gly	Ile	Leu	Phe	Thr 220	Met	Leu	Val	Phe
Gly 225	Pro	Ala	Cys	Gly	Phe 230	Ile	Leu	Gly	Ser	Phe 235	Cys	Thr	Lys	Ile	Tyr 240
Val	Asp	Ala	Val	Phe 245	Ile	Asp	Thr	Ser	Asn 250	Leu	Asp	Ile	Thr	Pro 255	Asp
Asp	Pro	Arg	Trp 260	Ile	Gly	Ala	Trp 265	Trp	Gly	Gly	Phe	Leu 270	Leu	Cys	Gly
Ala	Leu 275	Leu	Phe	Phe	Ser	Ser	Leu 280	Leu	Met	Phe	Gly	Phe 285	Pro	Gln	Ser
Leu	Pro 290	Pro	His	Ser	Asp	Pro 295	Ala	Met	Glu	Ser	Glu 300	Gln	Ala	Met	Leu
Ser 305	Glu	Arg	Glu	Tyr	Glu 310	Arg	Pro	Lys	Pro	Ser 315	Asn	Gly	Val	Leu	Arg 320
His	Pro	Leu	Glu	Pro 325	Asp	Ser	Ser	Ala	Ser 330	Cys	Phe	Gln	Gln	Leu 335	Arg
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Cys	Ile	Ile 355	Leu	Ala	Ala	Cys	Met 360	Glu	Ile	Ala	Val	Val 365	Ala	Gly	Phe
Ala	Ala 370	Phe	Leu	Gly	Lys	Tyr 375	Leu	Glu	Gln	Gln	Phe 380	Asn	Leu	Thr	Thr
Ser 385	Ser	Ala	Asn	Gln	Leu 390	Leu	Gly	Met	Thr	Ala 395	Ile	Pro	Cys	Ala	Cys 400
Leu	Gly	Ile	Phe	Leu 405	Gly	Gly	Leu	Leu	Val 410	Lys	Lys	Leu	Ser	Leu 415	Ser
Ala	Leu	Gly	Ala	Ile	Arg	Met	Ala	Met	Leu	Val	Asn	Leu	Val	Ser	Thr

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Ala	Gly	Val	Thr	Val	Pro	Tyr	Gly	Asn	Ser	Thr	Ala	Pro	Gly	Ser	Ala		
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Ser	Phe	Thr	Pro	Val	Cys	Gly	Ala	Asp	Gly	Ile	Thr	Tyr	Leu	Ser	Ala		
			485						490					495			
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Gly	Glu	Gln	Gly	Ala	Cys	Val	Leu	Tyr	Asp	Asn	Val	Val	Tyr	Arg	Tyr		
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Leu	Tyr	Val	Ser	Ile	Ala	Ile	Ala	Leu	Lys	Ser	Phe	Ala	Phe	Ile	Leu		
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Tyr	Thr	Thr	Thr	Trp	Gln	Cys	Leu	Arg	Lys	Asn	Tyr	Lys	Arg	Tyr	Ile		
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His	Arg	Thr	Lys	Phe	Ile	Tyr	Asn	Leu	Glu	Asp	His	Glu	Trp	Cys	Glu		
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Leu	Pro	Pro	Pro	Cys	Ala	Leu	Val	Leu	Ala	Gly	Val	Pro	Ser	Ser	Ser	
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Ser	His	Pro	Gln	Pro	Cys	Gln	Ile	Leu	Lys	Arg	Ile	Gly	His	Ala	Val	
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Pro	Glu	Pro	Gly	Thr	Arg	Arg	Ser	Pro	Ala	Pro	Ser	Pro	Gly	Ala	Arg		
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Trp	Leu	Gly	Ser	Thr	Leu	His	Gly	Arg	Gly	Pro	Pro	Gly	Ser	Arg	Lys		
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Pro	Gly	Glu	Gly	Ala	Arg	Ala	Glu	Ala	Leu	Trp	Pro	Arg	Asp	Ala	Leu		
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Asn	Leu	Ser	Leu	Glu	Val	Val	Met	Ala	Ile	Glu	Ala	Gly	Leu	Gly	Asp		
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Pro	Phe	Ser	Phe	Leu	Gln	Ser	Val	Cys	His	Thr	Val	Val	Val	Gln	Gly		
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Val	Ser	Ala	Leu	Leu	Ala	Phe	Pro	Gln	Ser	Gln	Gly	Glu	Met	Met	Glu		
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Arg	His	Glu	Phe	Pro	Arg	Glu	Ser	Gln	Asn	Pro	Leu	His	Leu	Gln	Leu		
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Ser	Leu	Glu	Asn	Ser	Leu	Ser	Ser	Asp	Ala	Asp	Val	Thr	Val	Ser	Ile		
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Leu	Thr	Met	Asn	Asn	Trp	Tyr	Asn	Phe	Ser	Leu	Leu	Leu	Cys	Gln	Glu		
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gac	tgg	aac	atc	acc	gac	ttc	ctc	ctc	ctt	acc	cag	aat	aat	tcc	aag	864	
Asp	Trp	Asn	Ile	Thr	Asp	Phe	Leu	Leu	Leu	Thr	Gln	Asn	Asn	Ser	Lys		
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ttc	cac	ctt	ggt	tct	atc	atc	aac	atc	acc	gct	aac	ctc	ccc	tcc	acc	912	
Phe	His	Leu	Gly	Ser	Ile	Ile	Asn	Ile	Thr	Ala	Asn	Leu	Pro	Ser	Thr		
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Ser Thr Pro Thr Val Val Met Phe Gly Cys Asp Met Glu Ser Ile Arg	
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Arg Ile Phe Glu Ile Thr Thr Gln Phe Gly Val Met Pro Pro Glu Leu	
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Arg Trp Val Leu Gly Asp Ser Gln Asn Met Glu Glu Leu Arg Thr Glu	
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Gly Leu Pro Leu Gly Leu Ile Ala His Gly Lys Thr Thr Gln Ser Val	
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Phe Glu His Tyr Val Gln Asp Ala Met Glu Leu Val Ala Arg Ala Val	
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Ile Arg Val Lys Gly Ser Thr Ile Val Ser Ser Glu Asn Asn Phe Phe	
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Leu	His	Ser	Ser	Asn 565	Asp	Thr	Val	Pro	Ile 570	Lys	Phe	Lys	Lys	Cys	Cys 575	
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Lys 610	Asn	Gly	His	Trp	Thr	Gly 615	Leu	Val	Gly	Asp	Leu 620	Leu	Arg	Gly	Thr	
gcc	cac	atg	gca	gtc	act	tcc	ttt	agc	atc	aat	act	gca	cgg	agc	cag	1920
Ala 625	His	Met	Ala	Val	Thr 630	Ser	Phe	Ser	Ile	Asn 635	Thr	Ala	Arg	Ser	Gln 640	
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Cys	Met 755	Phe	Cys	Leu	Ser	Thr	Tyr 760	Thr	Ala	Asn	Leu	Ala 765	Ala	Val	Met	
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Met Arg Arg Tyr Asn Val Pro Ala Thr Pro Asp Gly Val Glu Tyr Leu	
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Lys Asn Asp Pro Glu Lys Leu Asp Ala Phe Ile Met Asp Lys Ala Leu	
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Leu Asp Tyr Glu Val Ser Ile Asp Ala Asp Cys Lys Leu Leu Thr Val	
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Gly Lys Pro Phe Ala Ile Glu Gly Tyr Gly Ile Gly Leu Pro Pro Asn	
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Ser Pro Leu Thr Ala Asn Ile Ser Glu Leu Ile Ser Gln Tyr Lys Ser	
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Cys Gly Lys Arg Ser Phe Ala Val Thr Glu Thr Leu Gln Met Gly Ile	
915 920 925	
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Lys His Phe Ser Gly Leu Phe Val Leu Leu Cys Ile Gly Phe Gly Leu	
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Gln Arg Leu His Arg Ala Ile Asn Thr Ser Phe Ile Glu Glu Lys Gln	
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Gln His Phe Lys Thr Lys Arg Val Glu Lys Arg Ser Asn Val Gly Pro	
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Gln	Asp	Leu	Leu	Ser	Phe	Leu	Gln	Ile	Gln	Leu	Glu	Ser	Ile	Lys	Asn		
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Met	Asn	Cys	Met	Glu	Val	Glu	Thr	Thr	Asn	Leu	Thr	Ser	Gly	Gln	Tyr		
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Leu	Ser	Arg	Phe	Leu	Ala	Asn	Thr	Thr	Phe	Arg	Gly	Leu	Ser	Gly	Ser		
	435					440						445					
Ile	Arg	Val	Lys	Gly	Ser	Thr	Ile	Val	Ser	Ser	Glu	Asn	Asn	Phe	Phe		
	450					455						460					
Ile	Trp	Asn	Leu	Gln	His	Asp	Pro	Met	Gly	Lys	Pro	Met	Trp	Thr	Arg		
465					470					475					480		
Leu	Gly	Ser	Trp	Gln	Gly	Arg	Lys	Ile	Val	Met	Asp	Tyr	Gly	Ile	Trp		
				485						490				495			
Pro	Glu	Gln	Ala	Gln	Arg	His	Lys	Thr	His	Phe	Gln	His	Pro	Ser	Lys		
			500					505					510				
Leu	His	Leu	Arg	Val	Val	Thr	Leu	Ile	Glu	His	Pro	Phe	Val	Phe	Thr		
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Arg	Glu	Val	Asp	Asp	Glu	Gly	Leu	Cys	Pro	Ala	Gly	Gln	Leu	Cys	Leu		
	530				535						540						
Asp	Pro	Met	Thr	Asn	Asp	Ser	Ser	Thr	Leu	Asp	Ser	Leu	Phe	Ser	Ser		
545					550					555					560		
Leu	His	Ser	Ser	Asn	Asp	Thr	Val	Pro	Ile	Lys	Phe	Lys	Lys	Cys	Cys		
				565					570					575			
Tyr	Gly	Tyr	Cys	Ile	Asp	Leu	Leu	Glu	Lys	Ile	Ala	Glu	Asp	Met	Asn		
			580					585					590				
Phe	Asp	Phe	Asp	Leu	Tyr	Ile	Val	Gly	Asp	Gly	Lys	Tyr	Gly	Ala	Trp		
	595					600						605					
Lys	Asn	Gly	His	Trp	Thr	Gly	Leu	Val	Gly	Asp	Leu	Leu	Arg	Gly	Thr		
	610					615					620						
Ala	His	Met	Ala	Val	Thr	Ser	Phe	Ser	Ile	Asn	Thr	Ala	Arg	Ser	Gln		
625					630					635					640		
Val	Ile	Asp	Phe	Thr	Ser	Pro	Phe	Phe	Ser	Thr	Ser	Leu	Gly	Ile	Leu		
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Val	Arg	Thr	Arg	Asp	Thr	Ala	Ala	Pro	Ile	Gly	Ala	Phe	Met	Trp	Pro		
			660					665					670				

Leu	His	Trp	Thr	Met	Trp	Leu	Gly	Ile	Phe	Val	Ala	Leu	His	Ile	Thr		
		675					680					685					
Ala	Val	Phe	Leu	Thr	Leu	Tyr	Glu	Trp	Lys	Ser	Pro	Phe	Gly	Leu	Thr		
		690					695					700					
Pro	Lys	Gly	Arg	Asn	Arg	Ser	Lys	Val	Phe	Ser	Phe	Ser	Ser	Ala	Leu		
705					710					715					720		
Asn	Ile	Cys	Tyr	Ala	Leu	Leu	Phe	Gly	Arg	Thr	Val	Ala	Ile	Lys	Pro		
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Pro	Lys	Cys	Trp	Thr	Gly	Arg	Phe	Leu	Met	Asn	Leu	Trp	Ala	Ile	Phe		
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Cys	Met	Phe	Cys	Leu	Ser	Thr	Tyr	Thr	Ala	Asn	Leu	Ala	Ala	Val	Met		
		755					760					765					
Val	Gly	Glu	Lys	Ile	Tyr	Glu	Glu	Leu	Ser	Gly	Ile	His	Asp	Pro	Lys		
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Ser	Ala	Glu	Asp	Tyr	Val	Arg	Gln	Ser	Phe	Pro	Glu	Met	His	Glu	Tyr		
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Met	Arg	Arg	Tyr	Asn	Val	Pro	Ala	Thr	Pro	Asp	Gly	Val	Glu	Tyr	Leu		
			820					825					830				
Lys	Asn	Asp	Pro	Glu	Lys	Leu	Asp	Ala	Phe	Ile	Met	Asp	Lys	Ala	Leu		
		835					840					845					
Leu	Asp	Tyr	Glu	Val	Ser	Ile	Asp	Ala	Asp	Cys	Lys	Leu	Leu	Thr	Val		
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Gly	Lys	Pro	Phe	Ala	Ile	Glu	Gly	Tyr	Gly	Ile	Gly	Leu	Pro	Pro	Asn		
865					870					875					880		
Ser	Pro	Leu	Thr	Ala	Asn	Ile	Ser	Glu	Leu	Ile	Ser	Gln	Tyr	Lys	Ser		
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His	Gly	Phe	Met	Asp	Met	Leu	His	Asp	Lys	Trp	Tyr	Arg	Val	Val	Pro		
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Cys	Gly	Lys	Arg	Ser	Phe	Ala	Val	Thr	Glu	Thr	Leu	Gln	Met	Gly	Ile		
		915					920					925					
Lys	His	Phe	Ser	Gly	Leu	Phe	Val	Leu	Leu	Cys	Ile	Gly	Phe	Gly	Leu		
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Ser	Ile	Leu	Thr	Thr	Ile	Gly	Glu	His	Ile	Val	Tyr	Arg	Leu	Leu	Leu		
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Pro	Arg	Ile	Lys	Asn	Lys	Ser	Lys	Leu	Gln	Tyr	Trp	Leu	His	Thr	Ser		
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Gln	Arg	Leu	His	Arg	Ala	Ile	Asn	Thr	Ser	Phe	Ile	Glu	Glu	Lys	Gln		
			980					985					990				
Gln	His	Phe	Lys	Thr	Lys	Arg	Val	Glu	Lys	Arg	Ser	Asn	Val	Gly	Pro		
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Arg	Gln	Leu	Thr	Val	Trp	Asn	Thr	Ser	Asn	Leu	Ser	His	Asp	Asn	Arg		
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Arg	Lys	Tyr	Ile	Phe	Ser	Asp	Glu	Glu	Gly	Gln	Asn	Gln	Leu	Gly	Ile		
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Gln	Ile	His	Gln	Asp	Ile	Pro	Leu	Pro	Pro	Arg	Arg	Arg	Glu	Leu	Pro		
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Ala	Leu	Arg	Thr	Asn	Gly	Lys	Ala	Asp	Ser	Leu	Asn	Val	Ser	Arg			
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Asn	Ser	Val	Met	Gln	Glu	Leu	Ser	Glu	Leu	Glu	Lys	Gln	Ile	Gln	Val		
		1075					1080					1085					
Ile	Arg	Gln	Glu	Leu	Gln	Leu	Ala	Val	Ser	Arg	Lys	Thr	Glu	Leu	Glu		
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<211> 2561

<212> DNA

<213> Homo Sapiens

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 <222> (184)...(1830)

<221> misc_feature
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gctcgtcatc caccactacc atgtaagggc catgagaagg gctcatcctg gcgcagcgcg 180
gac atg gag gag gac tta ttc cag cta agg cag ctg ccg gtt gtg aaa 228
    Met Glu Glu Asp Leu Phe Gln Leu Arg Gln Leu Pro Val Val Lys
      1         5         10        15

ttc cgt cgc aca ggc gag agt gca agg tca gag gac gac acg gct tca 276
Phe Arg Arg Thr Gly Glu Ser Ala Arg Ser Glu Asp Asp Thr Ala Ser
          20          25          30

gga gag cat gaa gtc cag att gaa ggg gtc cac gtg ggc cta gag gct 324
Gly Glu His Glu Val Gln Ile Glu Gly Val His Val Gly Leu Glu Ala
          35          40          45

gtg gag ctg gat gat ggg gca gct gtg ccc aag gag ttt gcc aat ccc 372
Val Glu Leu Asp Asp Gly Ala Ala Val Pro Lys Glu Phe Ala Asn Pro
          50          55          60

acc gat gat act ttc atg gtg gaa gat gca gtg gaa gcc att ggc ttt 420
Thr Asp Asp Thr Phe Met Val Glu Asp Ala Val Glu Ala Ile Gly Phe
          65          70          75

gga aaa ttt cag tgg aag ctg tct gtt ctc act ggc ttg gct tgg atg 468
Gly Lys Phe Gln Trp Lys Leu Ser Val Leu Thr Gly Leu Ala Trp Met
          80          85          90          95

gct gat gcc atg gag atg atg atc ctc agc atc ctg gca cca cag ctg 516
Ala Asp Ala Met Glu Met Met Ile Leu Ser Ile Leu Ala Pro Gln Leu
          100          105          110

cat tgc gag tgg agg ctc cca agc tgg cag gtg gca ttg ctg acc tcg 564
His Cys Glu Trp Arg Leu Pro Ser Trp Gln Val Ala Leu Leu Thr Ser
          115          120          125

gtg gtc ttt gta ggc atg atg tcc agc tcc acg ctc tgg gga aat atc 612
Val Val Phe Val Gly Met Met Ser Ser Ser Thr Leu Trp Gly Asn Ile
          130          135          140

tca gac cag tac ggc agg aaa aca ggg ctg aag atc agc gtg ctg tgg 660
Ser Asp Gln Tyr Gly Arg Lys Thr Gly Leu Lys Ile Ser Val Leu Trp
          145          150          155

act ctg tac tat ggc atc ctt agt gca ttt gcg ccc gtg tat agc tgg 708
Thr Leu Tyr Tyr Gly Ile Leu Ser Ala Phe Ala Pro Val Tyr Ser Trp
          160          165          170          175

atc ctg gtg ctc cgg ggc ctg gtg ggc ttc ggg atc gga gga gtt ccc 756
Ile Leu Val Leu Arg Gly Leu Val Gly Phe Gly Ile Gly Gly Val Pro
          180          185          190

cag tcg gtg acg ctg tat gcc gag ttc ctt ccc atg aaa gcc aga gct 804

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Gln	Ser	Val	Thr	Leu	Tyr	Ala	Glu	Phe	Leu	Pro	Met	Lys	Ala	Arg	Ala			
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aaa	tgt	att	ttg	ctg	att	gag	gta	ttc	tgg	gcc	atc	ggg	aca	gtg	ttc		852	
Lys	Cys	Ile	Leu	Leu	Ile	Glu	Val	Phe	Trp	Ala	Ile	Gly	Thr	Val	Phe			
		210					215					220						
gag	gtc	gtc	ctg	gct	gtg	ttc	gtg	atg	ccc	agc	ctg	ggc	tgg	cgt	tgg		900	
Glu	Val	Val	Leu	Ala	Val	Phe	Val	Met	Pro	Ser	Leu	Gly	Trp	Arg	Trp			
	225					230					235							
ctg	ctc	atc	ctc	tca	gct	gtc	ccg	ctc	ctc	ctc	ttt	gcc	gtg	ctg	tgt		948	
Leu	Leu	Ile	Leu	Ser	Ala	Val	Pro	Leu	Leu	Leu	Phe	Ala	Val	Leu	Cys			
240					245				250						255			
ttc	tgg	ctg	cct	gaa	agt	gca	agg	tat	gat	gtg	ctg	tca	ggg	aac	cag		996	
Phe	Trp	Leu	Pro	Glu	Ser	Ala	Arg	Tyr	Asp	Val	Leu	Ser	Gly	Asn	Gln			
				260					265					270				
gaa	aag	gca	atc	gcc	acc	tta	aag	agg	ata	gca	act	gaa	aac	gga	gct		1044	
Glu	Lys	Ala	Ile	Ala	Thr	Leu	Lys	Arg	Ile	Ala	Thr	Glu	Asn	Gly	Ala			
			275					280					285					
ccc	atg	ccg	ctg	ggg	aaa	ctc	atc	atc	tcc	aga	cag	gaa	gac	cga	ggc		1092	
Pro	Met	Pro	Leu	Gly	Lys	Leu	Ile	Ile	Ser	Arg	Gln	Glu	Asp	Arg	Gly			
		290					295					300						
aaa	atg	agg	gac	ctt	ttc	aca	ccc	cat	ttt	aga	tgg	aca	act	ttg	ctg		1140	
Lys	Met	Arg	Asp	Leu	Phe	Thr	Pro	His	Phe	Arg	Trp	Thr	Thr	Leu	Leu			
	305					310				315								
ctg	tgg	ttt	ata	tgg	ttt	tcc	aat	gca	ttc	tct	tac	tac	ggg	tta	gtt		1188	
Leu	Trp	Phe	Ile	Trp	Phe	Ser	Asn	Ala	Phe	Ser	Tyr	Tyr	Gly	Leu	Val			
320					325					330					335			
cta	ctc	acc	aca	gaa	ctc	ttc	cag	gca	gga	gat	gtc	tgc	ggc	atc	tcc		1236	
Leu	Leu	Thr	Thr	Glu	Leu	Phe	Gln	Ala	Gly	Asp	Val	Cys	Gly	Ile	Ser			
				340					345					350				
agt	cgg	aag	aag	gct	gta	gag	gca	aaa	tgc	agc	ctg	gcc	tgc	gag	tac		1284	
Ser	Arg	Lys	Lys	Ala	Val	Glu	Ala	Lys	Cys	Ser	Leu	Ala	Cys	Glu	Tyr			
		355						360					365					
ctg	agt	gag	gag	gat	tac	atg	gac	ttg	ctg	tgg	acc	acc	ctc	tct	gag		1332	
Leu	Ser	Glu	Glu	Asp	Tyr	Met	Asp	Leu	Leu	Trp	Thr	Thr	Leu	Ser	Glu			
		370					375					380						
ttt	cca	ggt	gtc	ctt	gtg	act	ctg	tgg	att	att	gac	cgc	ctg	ggg	cgc		1380	
Phe	Pro	Gly	Val	Leu	Val	Thr	Leu	Trp	Ile	Ile	Asp	Arg	Leu	Gly	Arg			
	385					390					395							
aag	aag	acc	atg	gcc	ctg	tgc	ttt	gtc	atc	ttc	tcc	ttc	tgc	agc	ctc		1428	
Lys	Lys	Thr	Met	Ala	Leu	Cys	Phe	Val	Ile	Phe	Ser	Phe	Cys	Ser	Leu			
400					405				410						415			
ctg	ctg	ttt	atc	tgt	gtt	gga	aga	aat	gtg	ctc	act	ctg	tta	ctc	ttc		1476	
Leu	Leu	Phe	Ile	Cys	Val	Gly	Arg	Asn	Val	Leu	Thr	Leu	Leu	Leu	Phe			
				420					425					430				
att	gca	aga	gcg	ttt	att	tct	gga	ggc	ttt	caa	gcg	gca	tat	gtt	tac		1524	
Ile	Ala	Arg	Ala	Phe	Ile	Ser	Gly	Gly	Phe	Gln	Ala	Ala	Tyr	Val	Tyr			
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aca cct gag gtc tac ccc acg gca acg cgg gcc ctc ggc ctg ggc acc 1572
Thr Pro Glu Val Tyr Pro Thr Ala Thr Arg Ala Leu Gly Leu Gly Thr
      450                      455                      460

tgc agc ggc atg gca aga gtg ggt gct ctc atc act ccg ttc atc gcc 1620
Cys Ser Gly Met Ala Arg Val Gly Ala Leu Ile Thr Pro Phe Ile Ala
      465                      470                      475

cag gtg atg ctg gaa tcc tct gtg tac ctg act ctg gca gtt tac agt 1668
Gln Val Met Leu Glu Ser Ser Val Tyr Leu Thr Leu Ala Val Tyr Ser
      480                      485                      490                      495

ggc tgc tgc ctc ctg gct gcc ctg gcc tcc tgc ttt ttg ccc att gag 1716
Gly Cys Cys Leu Leu Ala Ala Leu Ala Ser Cys Phe Leu Pro Ile Glu
      500                      505                      510

acc aaa ggc gga gga ctg cag gag tcc agc cac cgg gag tgg ggc cag 1764
Thr Lys Gly Gly Gly Leu Gln Glu Ser Ser His Arg Glu Trp Gly Gln
      515                      520                      525

gag atg gtc ggc cga gga atg cac ggt gca ggt gtt acc agg tcg aac 1812
Glu Met Val Gly Arg Gly Met His Gly Ala Gly Val Thr Arg Ser Asn
      530                      535                      540

tct ggc tct cag gaa tag tgaccgatgg gggactgagc tgggtctttga 1860
Ser Gly Ser Gln Glu *
      545

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ggctgcagag cttgggggggc tggcaggccc caactggggc actgattgtc actgccgaca 1920
tcaagaactc acccaagagt atgacctgga ccaacagggt tttgtgtctt gactcagttt 1980
gctcatcttc attgaggtcc acccagggat ggggagatgt ttgctctagg gggttctctg 2040
tatatgtggt gaaagctttg ttcataacct gtggatctac atgggaagac taccatatt 2100
aggaggggtct ggtaatgccca gcaaccaatc agacaccacc cagagtcacc cggccaaacc 2160
ctcagtgaac aaccaaaata tctctctgta gataccgtcc aggctcaggc ccatgtgaca 2220
cctgctgtcc acccaccgga cctgttcagt aggtttctcc cacaccaca gccccaggct 2280
ttcttctttg aaattgcagg cgatctaggt gtggtctgag cagctatttc ctggcagggg 2340
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attcaaactg gagccacatg cccccaccca gcccctnttg gagttgcccg ttggtggcac 2460
caagagatcc agatgtgtcc tggggacagc tgggtcttgc accaggtgac aacctcaaaa 2520
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<212> PRT
<213> Homo Sapiens

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Glu His Glu Val Gln Ile Glu Gly Val His Val Gly Leu Glu Ala Val
      35          40          45
Glu Leu Asp Asp Gly Ala Ala Val Pro Lys Glu Phe Ala Asn Pro Thr
      50          55          60
Asp Asp Thr Phe Met Val Glu Asp Ala Val Glu Ala Ile Gly Phe Gly
      65          70          75          80
Lys Phe Gln Trp Lys Leu Ser Val Leu Thr Gly Leu Ala Trp Met Ala
      85          90          95
Asp Ala Met Glu Met Met Ile Leu Ser Ile Leu Ala Pro Gln Leu His
      100          105          110

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Cys	Glu	Trp	Arg	Leu	Pro	Ser	Trp	Gln	Val	Ala	Leu	Leu	Thr	Ser	Val	
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Val	Phe	Val	Gly	Met	Met	Ser	Ser	Ser	Thr	Leu	Trp	Gly	Asn	Ile	Ser	
	130					135					140					
Asp	Gln	Tyr	Gly	Arg	Lys	Thr	Gly	Leu	Lys	Ile	Ser	Val	Leu	Trp	Thr	
145					150					155					160	
Leu	Tyr	Tyr	Gly	Ile	Leu	Ser	Ala	Phe	Ala	Pro	Val	Tyr	Ser	Trp	Ile	
			165						170					175		
Leu	Val	Leu	Arg	Gly	Leu	Val	Gly	Phe	Gly	Ile	Gly	Gly	Val	Pro	Gln	
			180					185					190			
Ser	Val	Thr	Leu	Tyr	Ala	Glu	Phe	Leu	Pro	Met	Lys	Ala	Arg	Ala	Lys	
	195						200					205				
Cys	Ile	Leu	Leu	Ile	Glu	Val	Phe	Trp	Ala	Ile	Gly	Thr	Val	Phe	Glu	
	210					215					220					
Val	Val	Leu	Ala	Val	Phe	Val	Met	Pro	Ser	Leu	Gly	Trp	Arg	Trp	Leu	
225					230					235					240	
Leu	Ile	Leu	Ser	Ala	Val	Pro	Leu	Leu	Leu	Phe	Ala	Val	Leu	Cys	Phe	
				245						250				255		
Trp	Leu	Pro	Glu	Ser	Ala	Arg	Tyr	Asp	Val	Leu	Ser	Gly	Asn	Gln	Glu	
			260					265					270			
Lys	Ala	Ile	Ala	Thr	Leu	Lys	Arg	Ile	Ala	Thr	Glu	Asn	Gly	Ala	Pro	
	275					280						285				
Met	Pro	Leu	Gly	Lys	Leu	Ile	Ser	Arg	Gln	Glu	Asp	Arg	Gly	Lys		
	290					295				300						
Met	Arg	Asp	Leu	Phe	Thr	Pro	His	Phe	Arg	Trp	Thr	Thr	Leu	Leu	Leu	
305					310					315					320	
Trp	Phe	Ile	Trp	Phe	Ser	Asn	Ala	Phe	Ser	Tyr	Tyr	Gly	Leu	Val	Leu	
				325					330					335		
Leu	Thr	Thr	Glu	Leu	Phe	Gln	Ala	Gly	Asp	Val	Cys	Gly	Ile	Ser	Ser	
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Ser	Glu	Glu	Asp	Tyr	Met	Asp	Leu	Leu	Trp	Thr	Thr	Leu	Ser	Glu	Phe	
	370					375						380				
Pro	Gly	Val	Leu	Val	Thr	Leu	Trp	Ile	Ile	Asp	Arg	Leu	Gly	Arg	Lys	
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Lys	Thr	Met	Ala	Leu	Cys	Phe	Val	Ile	Phe	Ser	Phe	Cys	Ser	Leu	Leu	
			405						410					415		
Leu	Phe	Ile	Cys	Val	Gly	Arg	Asn	Val	Leu	Thr	Leu	Leu	Leu	Phe	Ile	
			420					425					430			
Ala	Arg	Ala	Phe	Ile	Ser	Gly	Gly	Phe	Gln	Ala	Ala	Tyr	Val	Tyr	Thr	
	435						440					445				
Pro	Glu	Val	Tyr	Pro	Thr	Ala	Thr	Arg	Ala	Leu	Gly	Leu	Gly	Thr	Cys	
	450					455					460					
Ser	Gly	Met	Ala	Arg	Val	Gly	Ala	Leu	Ile	Thr	Pro	Phe	Ile	Ala	Gln	
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Val	Met	Leu	Glu	Ser	Val	Tyr	Leu	Thr	Leu	Ala	Val	Tyr	Ser	Gly		
				485					490					495		
Cys	Cys	Leu	Leu	Ala	Ala	Leu	Ala	Ser	Cys	Phe	Leu	Pro	Ile	Glu	Thr	
			500					505					510			
Lys	Gly	Gly	Gly	Leu	Gln	Glu	Ser	Ser	His	Arg	Glu	Trp	Gly	Gln	Glu	
	515						520					525				
Met	Val	Gly	Arg	Gly	Met	His	Gly	Ala	Gly	Val	Thr	Arg	Ser	Asn	Ser	
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                                     Met Asn Asp Thr
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gaa aaa cca gca gat act ccc tct gag gaa gag gac ttt ggt gat cca 164
Glu Lys Pro Ala Asp Thr Pro Ser Glu Glu Glu Asp Phe Gly Asp Pro
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agg aca tat gac cca gat ttc aag ggg cct gtt gcc aac agg agt tgt 212
Arg Thr Tyr Asp Pro Asp Phe Lys Gly Pro Val Ala Asn Arg Ser Cys
                               25                               30                               35

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Thr Asp Val Leu Cys Cys Met Ile Phe Leu Leu Cys Ile Ile Gly Tyr
                               40                               45                               50

att gtt tta gga ctt gtg gcc tgg gta cat ggg gac ccc aga aga gca 308
Ile Val Leu Gly Leu Val Ala Trp Val His Gly Asp Pro Arg Arg Ala
                               55                               60                               65

gcc tat cct aca gac agc cag ggc cac ttt tgt ggc cag aag ggc act 356
Ala Tyr Pro Thr Asp Ser Gln Gly His Phe Cys Gly Gln Lys Gly Thr
                               70                               75                               80

ccc aat gag aac aag acc att ttg ttt tac ttt aac ctg tta cgc tgt 404
Pro Asn Glu Asn Lys Thr Ile Leu Phe Tyr Phe Asn Leu Leu Arg Cys
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acc agt ccc tcc gtg ttg cta aac cta cag tgc cct acc aca cag atc 452
Thr Ser Pro Ser Val Leu Leu Asn Leu Gln Cys Pro Thr Thr Gln Ile
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Cys Val Ser Lys Cys Pro Glu Lys Phe Leu Thr Tyr Val Glu Met Gln
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ctt ttg tac aca aaa gac aaa agc tac tgg gaa gac tac cgt cag ttc 548
Leu Leu Tyr Thr Lys Asp Lys Ser Tyr Trp Glu Asp Tyr Arg Gln Phe
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Cys Lys Thr Thr Ala Lys Pro Val Lys Ser Leu Thr Gln Leu Leu Leu
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Asp Asp Asp Cys Pro Thr Ala Ile Phe Pro Ser Lys Pro Phe Leu Gln
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Arg Cys Phe Pro Asp Phe Ser Thr Lys Asn Gly Thr Leu Thr Ile Gly
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Ser Lys Met Met Phe Gln Asp Gly Asn Gly Gly Thr Arg Ser Val Val
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Ser Leu Gly Leu Lys Val Phe Glu Asp Tyr Ala Arg Thr Trp Tyr Trp	
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Ile Leu Ile Gly Leu Thr Ile Ala Met Val Leu Ser Trp Ile Phe Leu	
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Gly Val Ile Gly Ile Ile Gly Tyr Gly Ile Trp His Cys Tyr Gln Gln	
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Trp Phe Thr Phe Met Ile Ile Leu Cys Ile Ile Glu Val Ile Val Ile	
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Leu Lys Glu Gly Ser Lys Ala Ile Gly Tyr Val Pro Ser Thr Leu Val	
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Tyr Pro Ala Leu Thr Phe Ile Leu Leu Ser Ile Cys Ile Cys Tyr Trp	
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Leu Cys Asn Phe Ala Phe Tyr Gly Gly Lys Ser Leu Tyr His Gln Tyr	
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 Tyr His Gln Tyr Ile Pro Thr Phe His Val Tyr Asn Leu Phe Val Phe
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 595 600 605
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Phe	Ala	Met	Leu	Leu	Ala	Gly	Val	Gly	Phe	Leu	Leu	Pro	Tyr	Asn	Ser	
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Ile	Thr	Ala	Gly	Tyr	Leu	Leu	Ala	Leu	Gly	Pro	Leu	Leu	Phe	Ile	Ser	
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Leu	Ile	Phe	Phe	Leu	Val	Ser	Val	Ala	Leu	Glu	Leu	Leu	Cys	Phe	Leu	
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His Pro Ala Pro Ala Leu Ala Pro Asn Glu Ser Pro Lys Asp Ser Pro	
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Ala His Glu Val Thr Gly Ser Gly Ala Tyr Met Arg Phe Asp Val	
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505

510

515

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 Thr Pro Asp Pro Gly Val Val Met Ser Phe Thr Phe Asp Ser His Gln
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 Leu Glu Glu Ala Ala Glu Ala Ala Gln Gly Gln Gly Leu Arg Ala Arg
 35 40 45
 Gly Val Pro Ala Phe Thr Asp Thr Thr Leu Asp Glu Pro Val Pro Asp
 50 55 60
 Asp Arg Tyr His Ala Ile Tyr Phe Ala Met Leu Leu Ala Gly Val Gly
 65 70 75 80
 Phe Leu Leu Pro Tyr Asn Ser Phe Ile Thr Asp Val Asp Tyr Leu His
 85 90 95
 His Lys Tyr Pro Gly Thr Ser Ile Val Phe Asp Met Ser Leu Thr Tyr
 100 105 110
 Ile Leu Val Ala Leu Ala Ala Val Leu Leu Asn Asn Val Leu Val Glu
 115 120 125
 Arg Leu Thr Leu His Thr Arg Ile Thr Ala Gly Tyr Leu Leu Ala Leu
 130 135 140
 Gly Pro Leu Leu Phe Ile Ser Ile Cys Asp Val Trp Leu Gln Leu Phe
 145 150 155 160
 Ser Arg Asp Gln Ala Tyr Ala Ile Asn Leu Ala Ala Val Gly Thr Val
 165 170 175
 Ala Phe Gly Cys Thr Val Gln Gln Ser Ser Phe Tyr Gly Tyr Thr Gly
 180 185 190
 Met Leu Pro Lys Arg Tyr Thr Gln Gly Val Met Thr Gly Glu Ser Thr
 195 200 205
 Ala Gly Val Met Ile Ser Leu Ser Arg Ile Leu Thr Lys Leu Leu Leu
 210 215 220
 Pro Asp Glu Arg Ala Ser Thr Leu Ile Phe Phe Leu Val Ser Val Ala
 225 230 235 240

Leu Glu Leu Leu Cys Phe Leu Leu His Leu Leu Val Arg Arg Ser Arg
 245 250 255
 Phe Val Leu Phe Tyr Thr Thr Arg Pro Arg Asp Ser His Arg Gly Arg
 260 265 270
 Pro Gly Leu Gly Arg Gly Tyr Gly Tyr Arg Val His His Asp Val Val
 275 280 285
 Ala Gly Asp Val His Phe Glu His Pro Ala Pro Ala Leu Ala Pro Asn
 290 295 300
 Glu Ser Pro Lys Asp Ser Pro Ala His Glu Val Thr Gly Ser Gly Gly
 305 310 315 320
 Ala Tyr Met Arg Phe Asp Val Pro Arg Pro Arg Val Gln Arg Ser Trp
 325 330 335
 Pro Thr Phe Arg Ala Leu Leu Leu His Arg Tyr Val Val Ala Arg Val
 340 345 350
 Ile Trp Ala Asp Met Leu Ser Ile Ala Val Thr Tyr Phe Ile Thr Leu
 355 360 365
 Cys Leu Phe Pro Gly Leu Glu Ser Glu Ile Arg His Cys Ile Leu Gly
 370 375 380
 Glu Trp Leu Pro Ile Leu Ile Met Ala Val Phe Asn Leu Ser Asp Phe
 385 390 395 400
 Val Gly Lys Ile Leu Ala Ala Leu Pro Val Asp Trp Arg Gly Thr His
 405 410 415
 Leu Leu Ala Cys Ser Cys Leu Arg Val Val Phe Ile Pro Leu Phe Ile
 420 425 430
 Leu Cys Val Tyr Pro Ser Gly Met Pro Ala Leu Arg His Pro Ala Trp
 435 440 445
 Pro Cys Ile Phe Ser Leu Leu Met Gly Ile Ser Asn Gly Tyr Phe Gly
 450 455 460
 Ser Val Pro Met Ile Leu Ala Ala Gly Lys Val Ser Pro Lys Gln Arg
 465 470 475 480
 Glu Leu Ala Gly Asn Thr Met Thr Val Ser Tyr Met Ser Gly Leu Thr
 485 490 495
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 His Gly Ser Cys Leu His Ala Ser Thr Ala Asn Gly Ser Ile Leu Ala
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 Gly Leu
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 Met
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 Ala Lys Leu Arg Val Ala Tyr Glu Tyr Thr Glu Ala Glu Asp Lys Ser
 5 10 15

 atc cgg ctc ggc ttg ttt ctc atc atc tcc ggc gtc gtg tcg ctc ttc 154
 Ile Arg Leu Gly Leu Phe Leu Ile Ile Ser Gly Val Val Ser Leu Phe
 20 25 30

atc ttc ggc ttc tgc tgg ctg agt ccc gcg ctg cag gat ctg caa gcc	202
Ile Phe Gly Phe Cys Trp Leu Ser Pro Ala Leu Gln Asp Leu Gln Ala	
35 40 45	
acg gag gcc aat tgc acg gtg ctg tcg gtg cag cag atc ggc gag gtg	250
Thr Glu Ala Asn Cys Thr Val Leu Ser Val Gln Gln Ile Gly Glu Val	
50 55 60 65	
ttc gag tgc acc ttc acc tgt ggc gcc gac tgc agg ggc acc tcg cag	298
Phe Glu Cys Thr Phe Thr Cys Gly Ala Asp Cys Arg Gly Thr Ser Gln	
70 75 80	
tac ccc tgc gtc cag gtc tac gtg aac aac tct gag tcc aac tct agg	346
Tyr Pro Cys Val Gln Val Tyr Val Asn Asn Ser Glu Ser Asn Ser Arg	
85 90 95	
gcg ctg ctg cac agc gac gag cac cag ctc ctg acc aac ccc aag tgc	394
Ala Leu Leu His Ser Asp Glu His Gln Leu Leu Thr Asn Pro Lys Cys	
100 105 110	
tcc tat atc cct ccc tgt aag aga gaa aat cag aag aat ttg gaa agt	442
Ser Tyr Ile Pro Pro Cys Lys Arg Glu Asn Gln Lys Asn Leu Glu Ser	
115 120 125	
gtc atg aat tgg caa cag tac tgg aaa gat gag att ggt tcc cag cca	490
Val Met Asn Trp Gln Gln Tyr Trp Lys Asp Glu Ile Gly Ser Gln Pro	
130 135 140 145	
ttt act tgc tat ttt aat caa cat caa aga cca gat gat gtg ctt ctg	538
Phe Thr Cys Tyr Phe Asn Gln His Gln Arg Pro Asp Asp Val Leu Leu	
150 155 160	
cat cgc act cat gat gag att gtc ctc ctg cat tgc ttc ctc tgg ccc	586
His Arg Thr His Asp Glu Ile Val Leu Leu His Cys Phe Leu Trp Pro	
165 170 175	
ctg gtg aca ttt gtg gtg ggc gtt ctc att gtg gtc ctg acc atc tgt	634
Leu Val Thr Phe Val Val Gly Val Leu Ile Val Val Leu Thr Ile Cys	
180 185 190	
gcc aag agc ttg gcg gtc aag gcg gaa gcc atg aag aag cgc aag ttc	682
Ala Lys Ser Leu Ala Val Lys Ala Glu Ala Met Lys Lys Arg Lys Phe	
195 200 205	
tct taa aggggaagga ggcttgtaga aagcaaagta cagaagctgt actcatcggc	738
Ser *	
210	
acgcgtccac ctgcggaacc tgtgtttcct ggcgcaggag atggacaggg ccacgacagg	798
gctctgagag gctcatccct cagtgggaac agaaacaggc acaactggaa gacttggaac	858
ctcaaagctt gtattccatc tgctgtagca atggctaaag ggtcaagatc ttagctgtat	918
ggagtaacta tttcagaaaa ccctataaga agttcatttt ctttcaaaag taacagtata	978
ttatttgtac agtgtagtat acaaaccatt atgatttatg ctacttaaaa atattaaaat	1038
agagtggctc gtgttatttt ctatttcctt ttttatgctt agaacaccag gggttaaaaaa	1098
aaaaaaaaa	1107

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<211> 210

<212> PRT

<213> Homo Sapiens

<400> 30

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			20					25					30		
Phe	Ile	Phe	Gly	Phe	Cys	Trp	Leu	Ser	Pro	Ala	Leu	Gln	Asp	Leu	Gln
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Ala	Thr	Glu	Ala	Asn	Cys	Thr	Val	Leu	Ser	Val	Gln	Gln	Ile	Gly	Glu
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Val	Phe	Glu	Cys	Thr	Phe	Thr	Cys	Gly	Ala	Asp	Cys	Arg	Gly	Thr	Ser
65				70						75					80
Gln	Tyr	Pro	Cys	Val	Gln	Val	Tyr	Val	Asn	Asn	Ser	Glu	Ser	Asn	Ser
			85						90					95	
Arg	Ala	Leu	Leu	His	Ser	Asp	Glu	His	Gln	Leu	Leu	Thr	Asn	Pro	Lys
		100						105					110		
Cys	Ser	Tyr	Ile	Pro	Pro	Cys	Lys	Arg	Glu	Asn	Gln	Lys	Asn	Leu	Glu
		115					120					125			
Ser	Val	Met	Asn	Trp	Gln	Gln	Tyr	Trp	Lys	Asp	Glu	Ile	Gly	Ser	Gln
	130					135					140				
Pro	Phe	Thr	Cys	Tyr	Phe	Asn	Gln	His	Gln	Arg	Pro	Asp	Asp	Val	Leu
145					150					155					160
Leu	His	Arg	Thr	His	Asp	Glu	Ile	Val	Leu	Leu	His	Cys	Phe	Leu	Trp
			165						170					175	
Pro	Leu	Val	Thr	Phe	Val	Val	Gly	Val	Leu	Ile	Val	Val	Leu	Thr	Ile
		180						185					190		
Cys	Ala	Lys	Ser	Leu	Ala	Val	Lys	Ala	Glu	Ala	Met	Lys	Lys	Arg	Lys
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Phe	Ser														
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				1				5							
agg	agg	gga	cta	gtg	gcc	cct	caa	aac	acg	ttt	ctg	gag	aat	att	gtt
Arg	Arg	Gly	Leu	Val	Ala	Pro	Gln	Asn	Thr	Phe	Leu	Glu	Asn	Ile	Val
			10					15					20		
cgg	cgg	tcc	aat	gat	act	aat	ttt	gtg	ttg	ggg	aat	gct	cag	ata	gtg
Arg	Arg	Ser	Asn	Asp	Thr	Asn	Phe	Val	Leu	Gly	Asn	Ala	Gln	Ile	Val
		25					30					35			
gac	tgg	cct	att	gtg	tac	agc	aat	gat	gga	ttt	tgc	aag	ctg	tct	ggc
Asp	Trp	Pro	Ile	Val	Tyr	Ser	Asn	Asp	Gly	Phe	Cys	Lys	Leu	Ser	Gly
	40					45					50				
tat	cac	agg	gca	gaa	gtg	atg	caa	aaa	agc	agc	acc	tgc	agt	ttt	atg
Tyr	His	Arg	Ala	Glu	Val	Met	Gln	Lys	Ser	Ser	Thr	Cys	Ser	Phe	Met
	55				60					65					70
tat	ggg	gag	ctg	act	gat	aaa	gac	acg	att	gaa	aaa	gtg	cgg	caa	aca
Tyr	Gly	Glu	Leu	Thr	Asp	Lys	Asp	Thr	Ile	Glu	Lys	Val	Arg	Gln	Thr

75										80					85					
ttt	gag	aac	tat	gag	atg	aat	tcc	ttt	gaa	att	ctg	atg	tac	aag	aag	342				
Phe	Glu	Asn	Tyr	Glu	Met	Asn	Ser	Phe	Glu	Ile	Leu	Met	Tyr	Lys	Lys					
		90						95					100							
aac	agg	aca	cct	gtg	tgg	ttc	ttt	gtg	aaa	att	gct	cca	att	cga	aac	390				
Asn	Arg	Thr	Pro	Val	Trp	Phe	Phe	Val	Lys	Ile	Ala	Pro	Ile	Arg	Asn					
		105					110					115								
gaa	cag	gat	aaa	gtg	gtt	tta	ttt	ctt	tgc	act	ttc	agt	gac	ata	aca	438				
Glu	Gln	Asp	Lys	Val	Val	Leu	Phe	Leu	Cys	Thr	Phe	Ser	Asp	Ile	Thr					
	120					125					130									
gct	ttc	aaa	cag	cca	att	gag	gat	gat	tca	tgt	aaa	ggc	tgg	ggg	aag	486				
Ala	Phe	Lys	Gln	Pro	Ile	Glu	Asp	Asp	Ser	Cys	Lys	Gly	Trp	Gly	Lys					
135					140					145					150					
ttt	gct	cgg	ctg	aca	aga	gca	ctg	aca	agc	agc	agg	ggg	gtc	ctg	cag	534				
Phe	Ala	Arg	Leu	Thr	Arg	Ala	Leu	Thr	Ser	Ser	Arg	Gly	Val	Leu	Gln					
				155					160					165						
cag	ctg	gct	cca	agc	gtg	caa	aaa	ggc	gag	aat	gtc	cac	aag	cac	tcc	582				
Gln	Leu	Ala	Pro	Ser	Val	Gln	Lys	Gly	Glu	Asn	Val	His	Lys	His	Ser					
			170					175					180							
cgc	ctg	gca	gag	gtc	cta	cag	ctg	ggc	tca	gac	atc	ctt	ccc	cag	tac	630				
Arg	Leu	Ala	Glu	Val	Leu	Gln	Leu	Gly	Ser	Asp	Ile	Leu	Pro	Gln	Tyr					
		185					190					195								
aag	caa	gag	gca	cca	aag	act	ccc	cct	cac	atc	atc	tta	cat	tat	tgt	678				
Lys	Gln	Glu	Ala	Pro	Lys	Thr	Pro	Pro	His	Ile	Ile	Leu	His	Tyr	Cys					
	200					205					210									
gtt	ttt	aag	acc	acg	tgg	gat	tgg	atc	atc	ttg	atc	ttg	acc	ttc	tat	726				
Val	Phe	Lys	Thr	Thr	Trp	Asp	Trp	Ile	Ile	Leu	Ile	Leu	Thr	Phe	Tyr					
215					220					225					230					
aca	gcc	atc	ttg	gtc	cct	tat	aat	gtc	tcc	ttc	aaa	acc	agg	cag	aat	774				
Thr	Ala	Ile	Leu	Val	Pro	Tyr	Asn	Val	Ser	Phe	Lys	Thr	Arg	Gln	Asn					
				235					240					245						
aat	gtg	gcc	tgg	ctg	gtt	gtt	gat	agc	atc	gtg	gat	gtt	atc	ttt	ttg	822				
Asn	Val	Ala	Trp	Leu	Val	Val	Asp	Ser	Ile	Val	Asp	Val	Ile	Phe	Leu					
			250					255					260							
gtg	gac	att	gtg	ctc	aat	ttt	cat	acc	acc	ttt	gtt	gga	cca	gca	ggg	870				
Val	Asp	Ile	Val	Leu	Asn	Phe	His	Thr	Thr	Phe	Val	Gly	Pro	Ala	Gly					
		265					270					275								
gag	gtg	att	tct	gac	ccc	aaa	ctt	atc	cgc	atg	aac	tac	ctg	aag	acg	918				
Glu	Val	Ile	Ser	Asp	Pro	Lys	Leu	Ile	Arg	Met	Asn	Tyr	Leu	Lys	Thr					
	280					285					290									
tgg	ttt	gtg	att	gac	ctt	ctg	tcc	tgt	ttg	cca	tat	gat	gtc	atc	aac	966				
Trp	Phe	Val	Ile	Asp	Leu	Leu	Ser	Cys	Leu	Pro	Tyr	Asp	Val	Ile	Asn					
295					300					305					310					
gct	ttt	gag	aac	gtg	gat	gag	gtt	agt	gcc	ttt	atg	ggg	gat	cca	ggg	1014				
Ala	Phe	Glu	Asn	Val	Asp	Glu	Val	Ser	Ala	Phe	Met	Gly	Asp	Pro	Gly					
				315					320					325						

aag att ggt ttt gct gat cag att cca cca cca ctg gag ggg aga gag	1062
Lys Ile Gly Phe Ala Asp Gln Ile Pro Pro Pro Leu Glu Gly Arg Glu	
330 335 340	
agt cag ggc atc agc agc ctg ttc agc tct cta aaa gtt gtc cgg ctg	1110
Ser Gln Gly Ile Ser Ser Leu Phe Ser Ser Leu Lys Val Val Arg Leu	
345 350 355	
ctc cgt ctt ggg cga gtg gcc cgt aag ctg gac cac tac att gaa tat	1158
Leu Arg Leu Gly Arg Val Ala Arg Lys Leu Asp His Tyr Ile Glu Tyr	
360 365 370	
gga gct gct gtg ctg gtc ctg ctg gtg tgt gtg ttt ggg ctg gct gca	1206
Gly Ala Ala Val Leu Val Leu Leu Val Cys Val Phe Gly Leu Ala Ala	
375 380 385 390	
cac tgg atg gcc tgc atc tgg tac agc att ggg gac tat gag atc ttt	1254
His Trp Met Ala Cys Ile Trp Tyr Ser Ile Gly Asp Tyr Glu Ile Phe	
395 400 405	
gac gag gac acc aag aca atc cgc aac aac agc tgg ctg tac caa cta	1302
Asp Glu Asp Thr Lys Thr Ile Arg Asn Asn Ser Trp Leu Tyr Gln Leu	
410 415 420	
gcg atg gac att ggc acc cct tac cag ttt aat ggg tct ggc tca ggg	1350
Ala Met Asp Ile Gly Thr Pro Tyr Gln Phe Asn Gly Ser Gly Ser Gly	
425 430 435	
aag tgg gaa ggt ggt ccc agc aag aat tct gtc tac atc tcc tcc ttg	1398
Lys Trp Glu Gly Gly Pro Ser Lys Asn Ser Val Tyr Ile Ser Ser Leu	
440 445 450	
tat ttc aca atg acc agc ctc acc agt gtg ggc ttt ggg aac atc gcc	1446
Tyr Phe Thr Met Thr Ser Leu Thr Ser Val Gly Phe Gly Asn Ile Ala	
455 460 465 470	
cca tcc aca gac att gag aag atc ttt gca gtg gcc atc atg atg att	1494
Pro Ser Thr Asp Ile Glu Lys Ile Phe Ala Val Ala Ile Met Met Ile	
475 480 485	
ggc tca ctt ctc tat gcc acc atc ttc ggg aat gtg acg act att ttc	1542
Gly Ser Leu Leu Tyr Ala Thr Ile Phe Gly Asn Val Thr Thr Ile Phe	
490 495 500	
caa cag atg tat gcc aac acc aac aga tac cat gag atg ctc aac agt	1590
Gln Gln Met Tyr Ala Asn Thr Asn Arg Tyr His Glu Met Leu Asn Ser	
505 510 515	
gtt cgg gac ttc ctg aag ctc tac cag gtg cca aaa gga ttg agt gag	1638
Val Arg Asp Phe Leu Lys Leu Tyr Gln Val Pro Lys Gly Leu Ser Glu	
520 525 530	
cga gta atg gat tat att gtg tcc act tgg tcc atg tcc aga ggc att	1686
Arg Val Met Asp Tyr Ile Val Ser Thr Trp Ser Met Ser Arg Gly Ile	
535 540 545 550	
gac aca gag aag gtc ctg cag atc tgc ccc aag gac atg aga gcc gac	1734
Asp Thr Glu Lys Val Leu Gln Ile Cys Pro Lys Asp Met Arg Ala Asp	
555 560 565	
atc tgc gtg cac ctg aac cgc aag gtg ttc aag gag cac ccg gcc ttc	1782
Ile Cys Val His Leu Asn Arg Lys Val Phe Lys Glu His Pro Ala Phe	

570					575					580						
cgg	ctg	gcc	agt	gat	ggc	tgc	ctc	cgg	gca	ctg	gcc	atg	gag	ttc	cag	1830
Arg	Leu	Ala	Ser	Asp	Gly	Cys	Leu	Arg	Ala	Leu	Ala	Met	Glu	Phe	Gln	
		585					590					595				
acg	gtg	cac	tgt	gcc	cca	ggg	gac	ctc	atc	tac	cat	gca	gga	gag	agc	1878
Thr	Val	His	Cys	Ala	Pro	Gly	Asp	Leu	Ile	Tyr	His	Ala	Gly	Glu	Ser	
	600					605					610					
gtt	gac	agc	ctc	tgc	ttt	gtg	gtt	tct	ggc	tcc	ctg	gag	gtg	atc	caa	1926
Val	Asp	Ser	Leu	Cys	Phe	Val	Val	Ser	Gly	Ser	Leu	Glu	Val	Ile	Gln	
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Asp	Asp	Glu	Val	Val	Ala	Ile	Leu	Gly	Lys	Gly	Asp	Val	Phe	Gly	Asp	
				635					640					645		
gtg	ttc	tgg	aag	gaa	gcc	acc	ctt	gcc	cag	tcc	tgt	gcc	aat	gtt	agg	2022
Val	Phe	Trp	Lys	Glu	Ala	Thr	Leu	Ala	Gln	Ser	Cys	Ala	Asn	Val	Arg	
			650					655					660			
gcc	ttg	acc	tac	tgt	gat	ctg	cat	gtg	atc	aag	cgg	gat	gcc	ctg	cag	2070
Ala	Leu	Thr	Tyr	Cys	Asp	Leu	His	Val	Ile	Lys	Arg	Asp	Ala	Leu	Gln	
		665					670						675			
aaa	gtg	ctg	gaa	ttc	tac	acg	gcc	ttc	tcc	cat	tcc	ttc	tcc	cgg	aac	2118
Lys	Val	Leu	Glu	Phe	Tyr	Thr	Ala	Phe	Ser	His	Ser	Phe	Ser	Arg	Asn	
	680					685					690					
ctg	att	ctg	acg	tac	aac	ttg	agg	aag	agg	att	gtg	ttc	cgg	aag	atc	2166
Leu	Ile	Leu	Thr	Tyr	Asn	Leu	Arg	Lys	Arg	Ile	Val	Phe	Arg	Lys	Ile	
695					700					705					710	
agc	gat	gtg	aaa	cgt	gaa	gag	gaa	gaa	cgc	atg	aaa	cga	aag	aat	gag	2214
Ser	Asp	Val	Lys	Arg	Glu	Glu	Glu	Glu	Arg	Met	Lys	Arg	Lys	Asn	Glu	
				715					720					725		
gcc	ccc	ctg	atc	ttg	ccc	ccg	gac	cac	cct	gtc	cgg	cgc	ctc	ttc	cag	2262
Ala	Pro	Leu	Ile	Leu	Pro	Pro	Asp	His	Pro	Val	Arg	Arg	Leu	Phe	Gln	
			730					735					740			
aga	ttc	cga	cag	cag	aaa	gag	gcc	agg	ctg	gca	gct	gag	aga	ggg	ggc	2310
Arg	Phe	Arg	Gln	Gln	Lys	Glu	Ala	Arg	Leu	Ala	Ala	Glu	Arg	Gly	Gly	
		745					750					755				
cgg	gac	ctg	gat	gac	cta	gat	gtg	gag	aag	ggc	aat	gtc	ctt	aca	gag	2358
Arg	Asp	Leu	Asp	Asp	Leu	Asp	Val	Glu	Lys	Gly	Asn	Val	Leu	Thr	Glu	
	760					765					770					
cat	gcc	tcc	gcc	aac	cac	agc	ctc	gtg	aag	gcc	agc	gtg	gtc	acc	gtg	2406
His	Ala	Ser	Ala	Asn	His	Ser	Leu	Val	Lys	Ala	Ser	Val	Val	Thr	Val	
775					780					785					790	
cgt	gag	agt	cct	gcc	acg	ccc	gta	tcc	ttc	cag	gca	gcc	tcc	acc	tcc	2454
Arg	Glu	Ser	Pro	Ala	Thr	Pro	Val	Ser	Phe	Gln	Ala	Ala	Ser	Thr	Ser	
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ggg	gtg	cca	gac	cac	gca	aag	cta	cag	gcg	cca	ggg	tcc	gag	tgc	ctg	2502
Gly	Val	Pro	Asp	His	Ala	Lys	Leu	Gln	Ala	Pro	Gly	Ser	Glu	Cys	Leu	
		810						815					820			

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 Gly Pro Lys Gly Gly Gly Gly Asp Cys Ala Lys Arg Lys Ser Trp Ala
 825 830 835

cgc ttc aaa gat gct tgc ggg aag agt gag gac tgg aac aag gtg tcc 2598
 Arg Phe Lys Asp Ala Cys Gly Lys Ser Glu Asp Trp Asn Lys Val Ser
 840 845 850

aag gct gag tcg atg gag aca ctt ccc gag agg aca aaa gcg tca ggc 2646
 Lys Ala Glu Ser Met Glu Thr Leu Pro Glu Arg Thr Lys Ala Ser Gly
 855 860 865 870

gag gcc aca ctg aag aag aca gac tcg tgt gac agt ggc atc acc aag 2694
 Glu Ala Thr Leu Lys Lys Thr Asp Ser Cys Asp Ser Gly Ile Thr Lys
 875 880 885

agc gac ttg cgc ctg gac aac gtg ggt gag gcc agg agt ccc cag gat 2742
 Ser Asp Leu Arg Leu Asp Asn Val Gly Glu Ala Arg Ser Pro Gln Asp
 890 895 900

cgg agt ccc atc ctg gca gag gtc aag cat tcg ttc tac ccc atc cct 2790
 Arg Ser Pro Ile Leu Ala Glu Val Lys His Ser Phe Tyr Pro Ile Pro
 905 910 915

gag cag acg ctg cag gcc aca gtc ctg gag gtg agg cac gag ctg aag 2838
 Glu Gln Thr Leu Gln Ala Thr Val Leu Glu Val Arg His Glu Leu Lys
 920 925 930

gag gac atc aag gcc tta aac gcc aaa atg acc aat att gag aaa cag 2886
 Glu Asp Ile Lys Ala Leu Asn Ala Lys Met Thr Asn Ile Glu Lys Gln
 935 940 945 950

ctc tct gag ata ctc agg ata tta act tcc aga aga tcc tct cag tct 2934
 Leu Ser Glu Ile Leu Arg Ile Leu Thr Ser Arg Arg Ser Ser Gln Ser
 955 960 965

cct cag gag ttg ttt gaa ata tcg agg cca cag tcc cca gaa tca gag 2982
 Pro Gln Glu Leu Phe Glu Ile Ser Arg Pro Gln Ser Pro Glu Ser Glu
 970 975 980

aga gac att ttt gga gcc agc tga gaggtctatt taaaaaaaaa gtcagagaca 3036
 Arg Asp Ile Phe Gly Ala Ser *
 985

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<210> 32

<211> 989

<212> PRT

<213> Homo Sapiens

<400> 32

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 Phe Leu Glu Asn Ile Val Arg Arg Ser Asn Asp Thr Asn Phe Val Leu
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 Gly Asn Ala Gln Ile Val Asp Trp Pro Ile Val Tyr Ser Asn Asp Gly
 35 40 45
 Phe Cys Lys Leu Ser Gly Tyr His Arg Ala Glu Val Met Gln Lys Ser
 50 55 60
 Ser Thr Cys Ser Phe Met Tyr Gly Glu Leu Thr Asp Lys Asp Thr Ile
 65 70 75 80

Glu	Lys	Val	Arg	Gln	Thr	Phe	Glu	Asn	Tyr	Glu	Met	Asn	Ser	Phe	Glu	85	90	95
Ile	Leu	Met	Tyr	Lys	Lys	Asn	Arg	Thr	Pro	Val	Trp	Phe	Phe	Val	Lys	100	105	110
Ile	Ala	Pro	Ile	Arg	Asn	Glu	Gln	Asp	Lys	Val	Val	Leu	Phe	Leu	Cys	115	120	125
Thr	Phe	Ser	Asp	Ile	Thr	Ala	Phe	Lys	Gln	Pro	Ile	Glu	Asp	Asp	Ser	130	135	140
Cys	Lys	Gly	Trp	Gly	Lys	Phe	Ala	Arg	Leu	Thr	Arg	Ala	Leu	Thr	Ser	145	150	155
Ser	Arg	Gly	Val	Leu	Gln	Gln	Leu	Ala	Pro	Ser	Val	Gln	Lys	Gly	Glu	165	170	175
Asn	Val	His	Lys	His	Ser	Arg	Leu	Ala	Glu	Val	Leu	Gln	Leu	Gly	Ser	180	185	190
Asp	Ile	Leu	Pro	Gln	Tyr	Lys	Gln	Glu	Ala	Pro	Lys	Thr	Pro	Pro	His	195	200	205
Ile	Ile	Leu	His	Tyr	Cys	Val	Phe	Lys	Thr	Thr	Trp	Asp	Trp	Ile	Ile	210	215	220
Leu	Ile	Leu	Thr	Phe	Tyr	Thr	Ala	Ile	Leu	Val	Pro	Tyr	Asn	Val	Ser	225	230	235
Phe	Lys	Thr	Arg	Gln	Asn	Asn	Val	Ala	Trp	Leu	Val	Val	Asp	Ser	Ile	245	250	255
Val	Asp	Val	Ile	Phe	Leu	Val	Asp	Ile	Val	Leu	Asn	Phe	His	Thr	Thr	260	265	270
Phe	Val	Gly	Pro	Ala	Gly	Glu	Val	Ile	Ser	Asp	Pro	Lys	Leu	Ile	Arg	275	280	285
Met	Asn	Tyr	Leu	Lys	Thr	Trp	Phe	Val	Ile	Asp	Leu	Leu	Ser	Cys	Leu	290	295	300
Pro	Tyr	Asp	Val	Ile	Asn	Ala	Phe	Glu	Asn	Val	Asp	Glu	Val	Ser	Ala	305	310	315
Phe	Met	Gly	Asp	Pro	Gly	Lys	Ile	Gly	Phe	Ala	Asp	Gln	Ile	Pro	Pro	325	330	335
Pro	Leu	Glu	Gly	Arg	Glu	Ser	Gln	Gly	Ile	Ser	Ser	Leu	Phe	Ser	Ser	340	345	350
Leu	Lys	Val	Val	Arg	Leu	Leu	Arg	Leu	Gly	Arg	Val	Ala	Arg	Lys	Leu	355	360	365
Asp	His	Tyr	Ile	Glu	Tyr	Gly	Ala	Ala	Val	Leu	Val	Leu	Leu	Val	Cys	370	375	380
Val	Phe	Gly	Leu	Ala	Ala	His	Trp	Met	Ala	Cys	Ile	Trp	Tyr	Ser	Ile	385	390	395
Gly	Asp	Tyr	Glu	Ile	Phe	Asp	Glu	Asp	Thr	Lys	Thr	Ile	Arg	Asn	Asn	405	410	415
Ser	Trp	Leu	Tyr	Gln	Leu	Ala	Met	Asp	Ile	Gly	Thr	Pro	Tyr	Gln	Phe	420	425	430
Asn	Gly	Ser	Gly	Ser	Gly	Lys	Trp	Glu	Gly	Gly	Pro	Ser	Lys	Asn	Ser	435	440	445
Val	Tyr	Ile	Ser	Ser	Leu	Tyr	Phe	Thr	Met	Thr	Ser	Leu	Thr	Ser	Val	450	455	460
Gly	Phe	Gly	Asn	Ile	Ala	Pro	Ser	Thr	Asp	Ile	Glu	Lys	Ile	Phe	Ala	465	470	475
Val	Ala	Ile	Met	Met	Ile	Gly	Ser	Leu	Leu	Tyr	Ala	Thr	Ile	Phe	Gly	485	490	495
Asn	Val	Thr	Thr	Ile	Phe	Gln	Gln	Met	Tyr	Ala	Asn	Thr	Asn	Arg	Tyr	500	505	510
His	Glu	Met	Leu	Asn	Ser	Val	Arg	Asp	Phe	Leu	Lys	Leu	Tyr	Gln	Val	515	520	525
Pro	Lys	Gly	Leu	Ser	Glu	Arg	Val	Met	Asp	Tyr	Ile	Val	Ser	Thr	Trp	530	535	540
Ser	Met	Ser	Arg	Gly	Ile	Asp	Thr	Glu	Lys	Val	Leu	Gln	Ile	Cys	Pro	545	550	555
Lys	Asp	Met	Arg	Ala	Asp	Ile	Cys	Val	His	Leu	Asn	Arg	Lys	Val	Phe	565	570	575

Lys	Glu	His	Pro	Ala	Phe	Arg	Leu	Ala	Ser	Asp	Gly	Cys	Leu	Arg	Ala	580	585	590
Leu	Ala	Met	Glu	Phe	Gln	Thr	Val	His	Cys	Ala	Pro	Gly	Asp	Leu	Ile	595	600	605
Tyr	His	Ala	Gly	Glu	Ser	Val	Asp	Ser	Leu	Cys	Phe	Val	Val	Ser	Gly	610	615	620
Ser	Leu	Glu	Val	Ile	Gln	Asp	Asp	Glu	Val	Val	Ala	Ile	Leu	Gly	Lys	625	630	635
Gly	Asp	Val	Phe	Gly	Asp	Val	Phe	Trp	Lys	Glu	Ala	Thr	Leu	Ala	Gln	645	650	655
Ser	Cys	Ala	Asn	Val	Arg	Ala	Leu	Thr	Tyr	Cys	Asp	Leu	His	Val	Ile	660	665	670
Lys	Arg	Asp	Ala	Leu	Gln	Lys	Val	Leu	Glu	Phe	Tyr	Thr	Ala	Phe	Ser	675	680	685
His	Ser	Phe	Ser	Arg	Asn	Leu	Ile	Leu	Thr	Tyr	Asn	Leu	Arg	Lys	Arg	690	695	700
Ile	Val	Phe	Arg	Lys	Ile	Ser	Asp	Val	Lys	Arg	Glu	Glu	Glu	Glu	Arg	705	710	715
Met	Lys	Arg	Lys	Asn	Glu	Ala	Pro	Leu	Ile	Leu	Pro	Pro	Asp	His	Pro	725	730	735
Val	Arg	Arg	Leu	Phe	Gln	Arg	Phe	Arg	Gln	Gln	Lys	Glu	Ala	Arg	Leu	740	745	750
Ala	Ala	Glu	Arg	Gly	Gly	Arg	Asp	Leu	Asp	Asp	Leu	Asp	Val	Glu	Lys	755	760	765
Gly	Asn	Val	Leu	Thr	Glu	His	Ala	Ser	Ala	Asn	His	Ser	Leu	Val	Lys	770	775	780
Ala	Ser	Val	Val	Thr	Val	Arg	Glu	Ser	Pro	Ala	Thr	Pro	Val	Ser	Phe	785	790	795
Gln	Ala	Ala	Ser	Thr	Ser	Gly	Val	Pro	Asp	His	Ala	Lys	Leu	Gln	Ala	805	810	815
Pro	Gly	Ser	Glu	Cys	Leu	Gly	Pro	Lys	Gly	Gly	Gly	Gly	Asp	Cys	Ala	820	825	830
Lys	Arg	Lys	Ser	Trp	Ala	Arg	Phe	Lys	Asp	Ala	Cys	Gly	Lys	Ser	Glu	835	840	845
Asp	Trp	Asn	Lys	Val	Ser	Lys	Ala	Glu	Ser	Met	Glu	Thr	Leu	Pro	Glu	850	855	860
Arg	Thr	Lys	Ala	Ser	Gly	Glu	Ala	Thr	Leu	Lys	Lys	Thr	Asp	Ser	Cys	865	870	875
Asp	Ser	Gly	Ile	Thr	Lys	Ser	Asp	Leu	Arg	Leu	Asp	Asn	Val	Gly	Glu	885	890	895
Ala	Arg	Ser	Pro	Gln	Asp	Arg	Ser	Pro	Ile	Leu	Ala	Glu	Val	Lys	His	900	905	910
Ser	Phe	Tyr	Pro	Ile	Pro	Glu	Gln	Thr	Leu	Gln	Ala	Thr	Val	Leu	Glu	915	920	925
Val	Arg	His	Glu	Leu	Lys	Glu	Asp	Ile	Lys	Ala	Leu	Asn	Ala	Lys	Met	930	935	940
Thr	Asn	Ile	Glu	Lys	Gln	Leu	Ser	Glu	Ile	Leu	Arg	Ile	Leu	Thr	Ser	945	950	955
Arg	Arg	Ser	Ser	Gln	Ser	Pro	Gln	Glu	Leu	Phe	Glu	Ile	Ser	Arg	Pro	965	970	975
Gln	Ser	Pro	Glu	Ser	Glu	Arg	Asp	Ile	Phe	Gly	Ala	Ser				980	985	

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<211> 6313

<212> DNA

<213> Homo Sapiens

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<221> CDS

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 ccaaaagagt gctgacacca tcacagtatg ttcccttctc aaccctggac atgggttcaga 180
 aacagctaaa gcagacaaga atctggggca gccaatattg taccacctgc caaagcttgg 240
 cacaacaat ctggaagcca aaaattgcac atactgtgga acagagcaag tggttctggc 300
 ctccctggga tttggatcct ggtttccaga gctaagaaca caaagtc atg aag gtg 356
 Met Lys Val
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aag gag gag aag gct ggg gta gga aag ctg gac cac act aac cac agg 404
 Lys Glu Glu Lys Ala Gly Val Gly Lys Leu Asp His Thr Asn His Arg
 5 10 15

agg aga ttt ccg gat cag aaa gaa tgc cct cct atc cac att ggg ctt 452
 Arg Arg Phe Pro Asp Gln Lys Glu Cys Pro Pro Ile His Ile Gly Leu
 20 25 30 35

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 Pro Val Pro Thr Tyr Pro Gln Arg Lys Thr Asp Gln Lys Gly His Leu
 40 45 50

tca ggc ctg caa aaa gtc cac tgg ggc ctg cgg cca gac cag cca cag 548
 Ser Gly Leu Gln Lys Val His Trp Gly Leu Arg Pro Asp Gln Pro Gln
 55 60 65

cag gaa ctg act ggc cca ggg agt ggg gca agc agc cag gac agc agc 596
 Gln Glu Leu Thr Gly Pro Gly Ser Gly Ala Ser Ser Gln Asp Ser Ser
 70 75 80

atg gat ctt atc agc agg act cgg tcc cca gct gct gag cag ctc cag 644
 Met Asp Leu Ile Ser Arg Thr Arg Ser Pro Ala Ala Glu Gln Leu Gln
 85 90 95

gac atc ctg ggg gag gaa gat gag gct ccc aac ccc acc ctc ttt aca 692
 Asp Ile Leu Gly Glu Glu Asp Glu Ala Pro Asn Pro Thr Leu Phe Thr
 100 105 110 115

gag atg gat act ctg cag cat gac gga gac cag atg gag tgg aag gag 740
 Glu Met Asp Thr Leu Gln His Asp Gly Asp Gln Met Glu Trp Lys Glu
 120 125 130

tca gcc agg tgg ata aag ttt gaa gaa aag gta gag gaa ggc ggc gaa 788
 Ser Ala Arg Trp Ile Lys Phe Glu Glu Lys Val Glu Glu Gly Gly Glu
 135 140 145

cgc tgg agc aag ccc cac gtg tcc aca cta tcc ctg cac agc ctc ttc 836
 Arg Trp Ser Lys Pro His Val Ser Thr Leu Ser Leu His Ser Leu Phe
 150 155 160

gag ctc cgt acc tgc ctg cag acg ggg acg gtg ctg ctg gat ttg gac 884
 Glu Leu Arg Thr Cys Leu Gln Thr Gly Thr Val Leu Leu Asp Leu Asp
 165 170 175

agt ggc tcc tta cca cag atc ata gat gat gtc att gag aag cag att 932
 Ser Gly Ser Leu Pro Gln Ile Ile Asp Asp Val Ile Glu Lys Gln Ile
 180 185 190 195

gag gat ggt ctc ctg cgg cca gag ctc cgg gag agg gtc agt tac gtc 980
 Glu Asp Gly Leu Leu Arg Pro Glu Leu Arg Glu Arg Val Ser Tyr Val
 200 205 210

ctc	ctg	agg	agg	cac	cgc	cac	caa	acc	aag	aag	ccc	atc	cac	cgc	tcc	1028
Leu	Leu	Arg	Arg	His	Arg	His	Gln	Thr	Lys	Lys	Pro	Ile	His	Arg	Ser	
			215					220						225		
tta	gct	gac	att	ggg	aag	tca	gtc	tcc	acc	aca	aat	cgc	agt	cct	gcc	1076
Leu	Ala	Asp	Ile	Gly	Lys	Ser	Val	Ser	Thr	Thr	Asn	Arg	Ser	Pro	Ala	
		230					235					240				
cgg	agc	cct	ggt	gct	ggc	ccg	agt	cta	cac	cac	tcc	acg	gaa	gac	ctg	1124
Arg	Ser	Pro	Gly	Ala	Gly	Pro	Ser	Leu	His	His	Ser	Thr	Glu	Asp	Leu	
	245					250					255					
cgg	atg	cgg	cag	agt	gca	aat	tac	gga	cgt	ctg	tgt	cat	gcc	cag	agc	1172
Arg	Met	Arg	Gln	Ser	Ala	Asn	Tyr	Gly	Arg	Leu	Cys	His	Ala	Gln	Ser	
260					265					270					275	
aga	agc	atg	aat	gac	att	tct	ctc	acc	cca	aac	aca	gac	cag	cgg	aaa	1220
Arg	Ser	Met	Asn	Asp	Ile	Ser	Leu	Thr	Pro	Asn	Thr	Asp	Gln	Arg	Lys	
			280						285					290		
aac	aaa	ttc	atg	aag	aag	atc	ccc	aag	gac	tca	gaa	gcg	tcc	aac	gtg	1268
Asn	Lys	Phe	Met	Lys	Lys	Ile	Pro	Lys	Asp	Ser	Glu	Ala	Ser	Asn	Val	
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ctc	gtg	ggc	gag	gtg	gac	ttc	cta	gac	cag	cca	ttc	atc	gcg	ttc	gtg	1316
Leu	Val	Gly	Glu	Val	Asp	Phe	Leu	Asp	Gln	Pro	Phe	Ile	Ala	Phe	Val	
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cgc	ctc	atc	cag	tcg	gcc	atg	ctg	gga	gga	gtg	acc	gag	gtg	cct	gtc	1364
Arg	Leu	Ile	Gln	Ser	Ala	Met	Leu	Gly	Gly	Val	Thr	Glu	Val	Pro	Val	
	325					330					335					
ccc	acc	aga	ttt	ctg	ttt	ata	cta	ctg	gga	cct	tct	ggg	aga	gca	aaa	1412
Pro	Thr	Arg	Phe	Leu	Phe	Ile	Leu	Leu	Gly	Pro	Ser	Gly	Arg	Ala	Lys	
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Ser	Tyr	Asn	Glu	Ile	Gly	Arg	Ala	Ile	Ala	Thr	Leu	Met	Val	Asp	Asp	
				360				365						370		
ctc	ttc	agt	gac	gtg	gcc	tac	aaa	gcc	cgc	aat	cgg	gaa	gat	ctg	atc	1508
Leu	Phe	Ser	Asp	Val	Ala	Tyr	Lys	Ala	Arg	Asn	Arg	Glu	Asp	Leu	Ile	
			375					380					385			
gca	gga	att	gat	gaa	ttt	ctg	gat	gag	gtc	atc	gtc	ctt	cct	cct	gga	1556
Ala	Gly	Ile	Asp	Glu	Phe	Leu	Asp	Glu	Val	Ile	Val	Leu	Pro	Pro	Gly	
		390					395					400				
gaa	tgg	gac	cca	aat	atc	cgg	att	gag	ccc	ccc	aag	aag	gtg	ccc	tct	1604
Glu	Trp	Asp	Pro	Asn	Ile	Arg	Ile	Glu	Pro	Pro	Lys	Lys	Val	Pro	Ser	
	405					410					415					
gct	gac	aag	agg	aaa	tct	gtg	ttc	tcc	cta	gca	gag	ctg	ggc	cag	atg	1652
Ala	Asp	Lys	Arg	Lys	Ser	Val	Phe	Ser	Leu	Ala	Glu	Leu	Gly	Gln	Met	
420					425					430					435	
aat	ggc	tct	gtg	gga	gga	ggc	ggc	gga	gct	cct	gga	gga	ggc	aat	gga	1700
Asn	Gly	Ser	Val	Gly	Gly	Gly	Gly	Gly	Ala	Pro	Gly	Gly	Gly	Asn	Gly	
				440				445						450		
ggc	ggc	ggc	ggc	ggc	agg	agg	agg	agg	agg	agg	agg	agg	agg	agg	agg	1748

Gly	Gly	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	Ala	Gly	Ser	Gly	Gly	Ala		
			455					460					465				
ggc	gga	aca	agc	agc	ggg	gat	gat	gga	gag	atg	cca	gcc	atg	cat	gaa	1796	
Gly	Gly	Thr	Ser	Ser	Gly	Asp	Asp	Gly	Glu	Met	Pro	Ala	Met	His	Glu		
		470				475					480						
atc	ggg	gag	gaa	ctt	atc	tgg	aca	gga	agg	ttc	ttc	ggt	ggc	ctg	tgt	1844	
Ile	Gly	Glu	Glu	Leu	Ile	Trp	Thr	Gly	Arg	Phe	Phe	Gly	Gly	Leu	Cys		
	485					490				495							
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Leu	Asp	Ile	Lys	Arg	Lys	Leu	Pro	Trp	Phe	Pro	Ser	Asp	Phe	Tyr	Asp		
500					505					510					515		
ggc	ttc	cac	att	cag	tcc	atc	tct	gcc	atc	cta	ttc	atc	tac	ctc	ggc	1940	
Gly	Phe	His	Ile	Gln	Ser	Ile	Ser	Ala	Ile	Leu	Phe	Ile	Tyr	Leu	Gly		
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tgt	atc	acc	aac	gcg	atc	acc	ttt	ggt	ggg	ctt	ctg	ggg	gat	gcc	acc	1988	
Cys	Ile	Thr	Asn	Ala	Ile	Thr	Phe	Gly	Gly	Leu	Leu	Gly	Asp	Ala	Thr		
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Asp	Asn	Tyr	Gln	Gly	Val	Met	Glu	Ser	Phe	Leu	Gly	Thr	Ala	Met	Ala		
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ggc	tcc	ttg	ttc	tgc	ctc	ttc	tgc	gga	cag	cct	ctc	atc	att	ctc	agc	2084	
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agc	acg	ggg	ccc	atc	ctc	atc	ttt	gag	aag	ctc	ctc	ttc	gac	ttc	agc	2132	
Ser	Thr	Gly	Pro	Ile	Leu	Ile	Phe	Glu	Lys	Leu	Leu	Phe	Asp	Phe	Ser		
580					585					590					595		
aaa	ggc	aat	ggc	ctg	gac	tac	atg	gag	ttc	cgc	ctc	tgg	att	ggc	cta	2180	
Lys	Gly	Asn	Gly	Leu	Asp	Tyr	Met	Glu	Phe	Arg	Leu	Trp	Ile	Gly	Leu		
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cac	tca	gct	gtc	cag	tgc	ctt	atc	cta	gtg	gcc	aca	gat	gcc	agc	ttt	2228	
His	Ser	Ala	Val	Gln	Cys	Leu	Ile	Leu	Val	Ala	Thr	Asp	Ala	Ser	Phe		
			615					620					625				
atc	atc	aaa	tat	atc	acc	cgc	ttc	acc	gag	gag	ggc	ttc	tcc	acc	ctt	2276	
Ile	Ile	Lys	Tyr	Ile	Thr	Arg	Phe	Thr	Glu	Glu	Gly	Phe	Ser	Thr	Leu		
		630				635						640					
atc	agc	ttc	atc	ttc	atc	tac	gat	gcc	atc	aag	aag	atg	atc	ggt	gcc	2324	
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Phe	Lys	Tyr	Tyr	Pro	Ile	Asn	Met	Asp	Phe	Lys	Pro	Asn	Phe	Ile	Thr		
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acc	tac	aag	tgc	gag	tgt	gtc	gcc	cct	gac	aca	gtg	aat	aca	acc	gtg	2420	
Thr	Tyr	Lys	Cys	Glu	Cys	Val	Ala	Pro	Asp	Thr	Val	Asn	Thr	Thr	Val		
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ttc	aat	gct	tca	gcc	cca	ttg	gca	cca	gac	acc	aac	gct	tct	ctg	tac	2468	
Phe	Asn	Ala	Ser	Ala	Pro	Leu	Ala	Pro	Asp	Thr	Asn	Ala	Ser	Leu	Tyr		
			695					700					705				

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Asn Leu Leu Asn Leu Thr Ala Leu Asp Trp Ser Leu Leu Ser Lys Lys	
710 715 720	
gag tgt ctg agc tac ggc ggg cgc ctg ctt ggg aat tcc tgc aag ttt	2564
Glu Cys Leu Ser Tyr Gly Gly Arg Leu Leu Gly Asn Ser Cys Lys Phe	
725 730 735	
atc cca gac ctg gcg ctc atg tcc ttc atc ctt ttc ttt ggg aca tac	2612
Ile Pro Asp Leu Ala Leu Met Ser Phe Ile Leu Phe Phe Gly Thr Tyr	
740 745 750 755	
tcc atg acc ctg acc ctg aag aag ttc aaa ttc agc cgc tat ttt cct	2660
Ser Met Thr Leu Thr Leu Lys Lys Phe Lys Phe Ser Arg Tyr Phe Pro	
760 765 770	
acc aag gtc cgg gcc ctg gtg gct gac ttt tcc att gtt ttc tcc atc	2708
Thr Lys Val Arg Ala Leu Val Ala Asp Phe Ser Ile Val Phe Ser Ile	
775 780 785	
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Leu Met Phe Cys Gly Ile Asp Ala Cys Phe Gly Leu Glu Thr Pro Lys	
790 795 800	
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Leu His Val Pro Ser Val Ile Lys Pro Thr Arg Pro Asp Arg Gly Trp	
805 810 815	
ttc gtg gcc ccc ttt ggg aag aac ccg tgg tgg gta tac cca gca agc	2852
Phe Val Ala Pro Phe Gly Lys Asn Pro Trp Trp Val Tyr Pro Ala Ser	
820 825 830 835	
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Ile Leu Pro Ala Leu Leu Val Thr Ile Leu Ile Phe Met Asp Gln Gln	
840 845 850	
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Ile Thr Ala Val Ile Val Asn Arg Lys Glu Asn Lys Leu Lys Lys Ala	
855 860 865	
gcc ggc tac cat ctg gac ctg ttc tgg gtg ggc atc ctc atg gct ttg	2996
Ala Gly Tyr His Leu Asp Leu Phe Trp Val Gly Ile Leu Met Ala Leu	
870 875 880	
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Cys Ser Phe Met Gly Leu Pro Trp Tyr Val Ala Ala Thr Val Ile Ser	
885 890 895	
atc gcc cac atc gac agc ctc aag atg gag aca gag acc agt gcc cct	3092
Ile Ala His Ile Asp Ser Leu Lys Met Glu Thr Glu Thr Ser Ala Pro	
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920 925 930	
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Ile Ile Val Phe Ile Leu Thr Gly Ile Ser Val Phe Leu Ala Pro Ile	
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Phe	Leu	Met	Pro	Ala	Lys	His	Gln	Pro	Asp	His	Ala	Phe	Leu	Arg	His	
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Pro	Val	Met	Ile	Leu	Gly	Leu	Ile	Ile	Val	Arg	Arg	Leu	Leu	Asp	Phe	
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His	Glu	Asp	Cys	Asp	Glu	Glu	Pro	Gln	Phe	Pro	Pro	Pro	Ser	Val	Ile	
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<212> PRT

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Gly His Leu Ser Gly Leu Gln Lys Val His Trp Gly Leu Arg Pro Asp
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Gln Pro Gln Gln Glu Leu Thr Gly Pro Gly Ser Gly Ala Ser Ser Gln
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Asp Ser Ser Met Asp Leu Ile Ser Arg Thr Arg Ser Pro Ala Ala Glu
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Gln Leu Gln Asp Ile Leu Gly Glu Glu Asp Glu Ala Pro Asn Pro Thr
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Leu Phe Thr Glu Met Asp Thr Leu Gln His Asp Gly Asp Gln Met Glu
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Trp Lys Glu Ser Ala Arg Trp Ile Lys Phe Glu Glu Lys Val Glu Glu
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Gly Gly Glu Arg Trp Ser Lys Pro His Val Ser Thr Leu Ser Leu His
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Ser Leu Phe Glu Leu Arg Thr Cys Leu Gln Thr Gly Thr Val Leu Leu
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Asp Leu Asp Ser Gly Ser Leu Pro Gln Ile Ile Asp Asp Val Ile Glu
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Lys Gln Ile Glu Asp Gly Leu Leu Arg Pro Glu Leu Arg Glu Arg Val
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Ser Tyr Val Leu Leu Arg Arg His Arg His Gln Thr Lys Lys Pro Ile
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His Arg Ser Leu Ala Asp Ile Gly Lys Ser Val Ser Thr Thr Asn Arg
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 35 40 45

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Phe	Thr	Lys	Arg	Val	Arg	Ile	Ile	Glu	Pro	Leu	Leu	Val	Phe	Leu	Leu		
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acc	ctc	atc	ttc	atc	ctg	ttc	ttc	cga	gcc	ctc	ggc	gta	gtc	ctg	cag	1215	
Thr	Leu	Ile	Phe	Ile	Leu	Phe	Phe	Arg	Ala	Leu	Gly	Val	Val	Leu	Gln		
			370					375					380				
acc	tgg	gtg	ctg	aat	cag	ttc	cgg	cta	gtc	cct	ctg	gac	aag	att	gac	1263	
Thr	Trp	Val	Leu	Asn	Gln	Phe	Arg	Leu	Val	Pro	Leu	Asp	Lys	Ile	Asp		
		385				390						395					
caa	gtg	gtg	atg	tcc	tat	ggg	ggc	ctg	cgg	ggg	gct	gtg	gcc	ttt	gct	1311	
Gln	Val	Val	Met	Ser	Tyr	Gly	Gly	Leu	Arg	Gly	Ala	Val	Ala	Phe	Ala		
	400					405					410						
ctc	gtc	atc	cta	ctg	gat	agg	acc	aag	gtc	cct	gcc	aag	gac	tac	ttt	1359	
Leu	Val	Ile	Leu	Leu	Asp	Arg	Thr	Lys	Val	Pro	Ala	Lys	Asp	Tyr	Phe		
415					420				425						430		
gta	gcc	acc	act	att	gta	gtg	gtc	ttc	ttc	aca	gtc	atc	gtg	cag	ggc	1407	
Val	Ala	Thr	Thr	Ile	Val	Val	Val	Phe	Phe	Thr	Val	Ile	Val	Gln	Gly		
				435				440						445			
ttg	acc	atc	aag	cca	ctg	gtc	aaa	tgg	ctg	aag	gtg	aag	agg	agt	gag	1455	
Leu	Thr	Ile	Lys	Pro	Leu	Val	Lys	Trp	Leu	Lys	Val	Lys	Arg	Ser	Glu		
			450					455					460				
cat	cac	aaa	ccc	acc	ctg	aac	cag	gag	ctg	cat	gaa	cac	act	ttt	gac	1503	
His	His	Lys	Pro	Thr	Leu	Asn	Gln	Glu	Leu	His	Glu	His	Thr	Phe	Asp		
		465				470						475					
cac	att	ctg	gct	gca	gtg	gag	gac	gtt	gtg	ggg	cac	cat	ggc	tac	cac	1551	
His	Ile	Leu	Ala	Ala	Val	Glu	Asp	Val	Val	Gly	His	His	Gly	Tyr	His		
	480					485					490						

tac tgg agg gac agg tgg gag cag ttt gac aag aaa tac ctg agt cag	1599
Tyr Trp Arg Asp Arg Trp Glu Gln Phe Asp Lys Lys Tyr Leu Ser Gln	
495 500 505 510	
ctg ctg atg cga cga tca gcc tac cgc atc cgg gac cag atc tgg gat	1647
Leu Leu Met Arg Arg Ser Ala Tyr Arg Ile Arg Asp Gln Ile Trp Asp	
515 520 525	
gtg tac tac agg ctt aac atc cgg gat gcc atc agc ttt gtg gac cag	1695
Val Tyr Tyr Arg Leu Asn Ile Arg Asp Ala Ile Ser Phe Val Asp Gln	
530 535 540	
gga ggc cac gtc ttg tct tcc aca ggt ctc act ctg cct tct atg ccc	1743
Gly Gly His Val Leu Ser Ser Thr Gly Leu Thr Leu Pro Ser Met Pro	
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Ser Arg Asn Ser Val Ala Glu Thr Ser Val Thr Asn Leu Leu Arg Glu	
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Ser Gly Ser Gly Ala Cys Leu Asp Leu Gln Val Ile Asp Thr Val Arg	
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Ser Gly Arg Asp Arg Glu Asp Ala Val Met His His Leu Leu Cys Gly	
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ggc ctc tac aag ccg cgc cgt agg tac aaa gcc agc tgc agt cgc cac	1935
Gly Leu Tyr Lys Pro Arg Arg Arg Tyr Lys Ala Ser Cys Ser Arg His	
610 615 620	
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Phe Ile Ser Glu Asp Ala Gln Glu Arg Gln Asp Lys Glu Val Phe Gln	
625 630 635	
cag aac atg aag cgg cgg ctg gag tcc ttt aag tcc acc aag cac aac	2031
Gln Asn Met Lys Arg Arg Leu Glu Ser Phe Lys Ser Thr Lys His Asn	
640 645 650	
atc tgc ttc acc aag agc aag cca cga ccc cgc aag act ggc cgc agg	2079
Ile Cys Phe Thr Lys Ser Lys Pro Arg Pro Arg Lys Thr Gly Arg Arg	
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aag aag gat ggt gtg gcg aat gct gag gct aca aat ggg aaa cat cga	2127
Lys Lys Asp Gly Val Ala Asn Ala Glu Ala Thr Asn Gly Lys His Arg	
675 680 685	
ggc ctg ggc ttt cag gac aca gct gct gtg ata tta acc gtg gag tct	2175
Gly Leu Gly Phe Gln Asp Thr Ala Ala Val Ile Leu Thr Val Glu Ser	
690 695 700	
gag gag gag gag gag gag agc gac agt tca gag aca gag aag gag gac	2223
Glu Glu Glu Glu Glu Glu Ser Asp Ser Ser Glu Thr Glu Lys Glu Asp	
705 710 715	
gat gag ggg atc atc ttt gtg gct cgt gcc acc agt gag gtt ctc caa	2271
Asp Glu Gly Ile Ile Phe Val Ala Arg Ala Thr Ser Glu Val Leu Gln	
720 725 730	
gag ggc aag gtc tca gga agc ctt gag gtg tgc cca agc cca cga atc	2319

Glu Gly Lys Val Ser	Gly Ser Leu Glu Val Cys	Pro Ser Pro Arg Ile	
735	740	745	750
att ccc ccc tcc cca acc tgt gca gaa aag gag ctc ccc tgg aag agt			2367
Ile Pro Pro Ser	Pro Thr Cys Ala Glu Lys Glu Leu Pro Trp Lys Ser		
	755	760	765
ggg cag ggg gac ctg gca gtg tac gtg tcc tcg gaa acc acc aag att			2415
Gly Gln Gly Asp Leu Ala Val Tyr Val Ser Ser Glu Thr Thr Lys Ile			
	770	775	780
gtg cct gtg gac atg cag acg ggt tgg aac cag agc atc tca tcc ctg			2463
Val Pro Val Asp Met Gln Thr Gly Trp Asn Gln Ser Ile Ser Ser Leu			
	785	790	795
gag agc cta gcg tcc cct ccc tgt aac cag gcc cca att ctg acc tgc			2511
Glu Ser Leu Ala Ser Pro Pro Cys Asn Gln Ala Pro Ile Leu Thr Cys			
	800	805	810
ctg cct ccc cat cca cgg ggc act gaa gag ccc cag gtc cct ctc cac			2559
Leu Pro Pro His Pro Arg Gly Thr Glu Glu Pro Gln Val Pro Leu His			
	815	820	825
cta cct tct gat cca cgc tct agc ttc gcc ttc cca ccg agc ctg gcc			2607
Leu Pro Ser Asp Pro Arg Ser Ser Phe Ala Phe Pro Pro Ser Leu Ala			
	835	840	845
aag gct ggc cgc tct cgc agt gag agc agc gct gac ctc ccc cag cag			2655
Lys Ala Gly Arg Ser Arg Ser Glu Ser Ser Ala Asp Leu Pro Gln Gln			
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cag gag ctg cag ccc ctc atg ggc cac aag gac cac acc cat ctc agc			2703
Gln Glu Leu Gln Pro Leu Met Gly His Lys Asp His Thr His Leu Ser			
	865	870	875
cca ggc acc gct acc tcc cac tgg tgc atc cag ttc aac aga ggc agc			2751
Pro Gly Thr Ala Thr Ser His Trp Cys Ile Gln Phe Asn Arg Gly Ser			
	880	885	890
cgg ctg tag ctcaaggcct cggggaggag caggaggtgg aatccctgtg			2800
Arg Leu *			
895			
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a			3761

<210> 36

<211> 896
 <212> PRT
 <213> Homo Sapiens

<400> 36

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Ala	Glu	Glu	Pro	Thr	Gln	Lys	Pro	Glu	Ser	Pro	Gly	Glu	Pro	Pro	Pro
			20					25					30		
Gly	Leu	Glu	Leu	Phe	Arg	Trp	Gln	Trp	His	Glu	Val	Glu	Ala	Pro	Tyr
		35					40					45			
Leu	Val	Ala	Leu	Trp	Ile	Leu	Val	Ala	Ser	Leu	Ala	Lys	Ile	Val	Phe
	50				55						60				
His	Leu	Ser	Arg	Lys	Val	Thr	Ser	Leu	Val	Pro	Glu	Ser	Cys	Leu	Leu
65					70					75					80
Ile	Leu	Leu	Gly	Leu	Val	Leu	Gly	Gly	Ile	Val	Leu	Ala	Val	Ala	Lys
			85						90					95	
Lys	Ala	Glu	Tyr	Gln	Leu	Glu	Pro	Gly	Thr	Phe	Phe	Leu	Phe	Leu	Leu
			100					105					110		
Pro	Pro	Ile	Val	Leu	Asp	Ser	Gly	Tyr	Phe	Met	Pro	Ser	Arg	Leu	Phe
		115					120					125			
Phe	Asp	Asn	Leu	Gly	Ala	Ile	Leu	Thr	Tyr	Ala	Val	Val	Gly	Thr	Leu
	130					135					140				
Trp	Asn	Ala	Phe	Thr	Thr	Gly	Ala	Ala	Leu	Trp	Gly	Leu	Gln	Gln	Ala
145					150					155					160
Gly	Leu	Val	Ala	Pro	Arg	Val	Gln	Ala	Gly	Leu	Leu	Asp	Phe	Leu	Leu
			165						170					175	
Phe	Gly	Ser	Leu	Ile	Ser	Ala	Val	Asp	Pro	Val	Ala	Val	Leu	Ala	Val
		180						185					190		
Phe	Glu	Glu	Val	His	Val	Asn	Glu	Thr	Leu	Phe	Ile	Ile	Val	Phe	Gly
	195						200					205			
Glu	Ser	Leu	Leu	Asn	Asp	Ala	Val	Thr	Val	Val	Leu	Tyr	Lys	Val	Cys
	210					215					220				
Asn	Ser	Phe	Val	Glu	Met	Gly	Ser	Ala	Asn	Val	Gln	Ala	Thr	Asp	Tyr
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Leu	Lys	Gly	Val	Ala	Ser	Leu	Phe	Val	Val	Ser	Leu	Gly	Gly	Ala	Ala
			245						250					255	
Val	Gly	Leu	Val	Phe	Ala	Phe	Leu	Leu	Ala	Leu	Thr	Thr	Arg	Phe	Thr
		260					265						270		
Lys	Arg	Val	Arg	Ile	Ile	Glu	Pro	Leu	Leu	Val	Phe	Leu	Leu	Ala	Tyr
	275						280					285			
Ala	Ala	Tyr	Leu	Thr	Ala	Glu	Met	Ala	Ser	Leu	Ser	Ala	Ile	Leu	Ala
	290					295					300				
Val	Thr	Met	Cys	Gly	Leu	Gly	Cys	Lys	Lys	Tyr	Val	Glu	Ala	Asn	Ile
305					310					315					320
Ser	His	Lys	Ser	Arg	Thr	Thr	Val	Lys	Tyr	Thr	Met	Lys	Thr	Leu	Ala
			325						330					335	
Ser	Cys	Ala	Glu	Thr	Val	Ile	Phe	Met	Leu	Leu	Gly	Ile	Ser	Ala	Val
		340					345					350			
Asp	Ser	Ser	Lys	Trp	Ala	Trp	Asp	Ser	Gly	Leu	Val	Leu	Gly	Thr	Leu
	355					360						365			
Ile	Phe	Ile	Leu	Phe	Phe	Arg	Ala	Leu	Gly	Val	Val	Leu	Gln	Thr	Trp
	370					375					380				
Val	Leu	Asn	Gln	Phe	Arg	Leu	Val	Pro	Leu	Asp	Lys	Ile	Asp	Gln	Val
385					390					395					400
Val	Met	Ser	Tyr	Gly	Gly	Leu	Arg	Gly	Ala	Val	Ala	Phe	Ala	Leu	Val
			405						410					415	
Ile	Leu	Leu	Asp	Arg	Thr	Lys	Val	Pro	Ala	Lys	Asp	Tyr	Phe	Val	Ala
		420						425					430		
Thr	Thr	Ile	Val	Val	Val	Phe	Phe	Thr	Val	Ile	Val	Gln	Gly	Leu	Thr
	435						440					445			
Ile	Lys	Pro	Leu	Val	Lys	Trp	Leu	Lys	Val	Lys	Arg	Ser	Glu	His	His

450		455		460	
Lys Pro Thr Leu Asn Gln Glu Leu His Glu His Thr Phe Asp His Ile					
465		470		475	480
Leu Ala Ala Val Glu Asp Val Val Gly His His Gly Tyr His Tyr Trp					
		485		490	495
Arg Asp Arg Trp Glu Gln Phe Asp Lys Lys Tyr Leu Ser Gln Leu Leu					
		500		505	510
Met Arg Arg Ser Ala Tyr Arg Ile Arg Asp Gln Ile Trp Asp Val Tyr					
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Tyr Arg Leu Asn Ile Arg Asp Ala Ile Ser Phe Val Asp Gln Gly Gly					
		530		535	540
His Val Leu Ser Ser Thr Gly Leu Thr Leu Pro Ser Met Pro Ser Arg					
		545		550	555
Asn Ser Val Ala Glu Thr Ser Val Thr Asn Leu Leu Arg Glu Ser Gly					
		565		570	575
Ser Gly Ala Cys Leu Asp Leu Gln Val Ile Asp Thr Val Arg Ser Gly					
		580		585	590
Arg Asp Arg Glu Asp Ala Val Met His His Leu Leu Cys Gly Gly Leu					
		595		600	605
Tyr Lys Pro Arg Arg Arg Tyr Lys Ala Ser Cys Ser Arg His Phe Ile					
		610		615	620
Ser Glu Asp Ala Gln Glu Arg Gln Asp Lys Glu Val Phe Gln Gln Asn					
		625		630	635
Met Lys Arg Arg Leu Glu Ser Phe Lys Ser Thr Lys His Asn Ile Cys					
		645		650	655
Phe Thr Lys Ser Lys Pro Arg Pro Arg Lys Thr Gly Arg Arg Lys Lys					
		660		665	670
Asp Gly Val Ala Asn Ala Glu Ala Thr Asn Gly Lys His Arg Gly Leu					
		675		680	685
Gly Phe Gln Asp Thr Ala Ala Val Ile Leu Thr Val Glu Ser Glu Glu					
		690		695	700
Glu Glu Glu Glu Ser Asp Ser Ser Glu Thr Glu Lys Glu Asp Asp Glu					
		705		710	715
Gly Ile Ile Phe Val Ala Arg Ala Thr Ser Glu Val Leu Gln Glu Gly					
		725		730	735
Lys Val Ser Gly Ser Leu Glu Val Cys Pro Ser Pro Arg Ile Ile Pro					
		740		745	750
Pro Ser Pro Thr Cys Ala Glu Lys Glu Leu Pro Trp Lys Ser Gly Gln					
		755		760	765
Gly Asp Leu Ala Val Tyr Val Ser Ser Glu Thr Thr Lys Ile Val Pro					
		770		775	780
Val Asp Met Gln Thr Gly Trp Asn Gln Ser Ile Ser Ser Leu Glu Ser					
		785		790	795
Leu Ala Ser Pro Pro Cys Asn Gln Ala Pro Ile Leu Thr Cys Leu Pro					
		805		810	815
Pro His Pro Arg Gly Thr Glu Glu Pro Gln Val Pro Leu His Leu Pro					
		820		825	830
Ser Asp Pro Arg Ser Ser Phe Ala Phe Pro Pro Ser Leu Ala Lys Ala					
		835		840	845
Gly Arg Ser Arg Ser Glu Ser Ser Ala Asp Leu Pro Gln Gln Glu					
		850		855	860
Leu Gln Pro Leu Met Gly His Lys Asp His Thr His Leu Ser Pro Gly					
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Thr Ala Thr Ser His Trp Cys Ile Gln Phe Asn Arg Gly Ser Arg Leu					
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<211> 4069

<212> DNA

<213> Homo Sapiens

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Gly Lys Pro Asn Ser Ser Ser Asn Ser Arg Asp Asp Gly Asn Ser Val	
5 10 15 20	
ttc ccc gcc aag gcg tcc gcg ccg ggc gcg ggg ccg gcc gcg gcc gag	150
Phe Pro Ala Lys Ala Ser Ala Pro Gly Ala Gly Pro Ala Ala Ala Glu	
25 30 35	
aag cgc ctg ggc acc ccg ccg ggg ggc ggc ggg gcc ggc gcg aag gag	198
Lys Arg Leu Gly Thr Pro Pro Gly Gly Gly Gly Ala Gly Ala Lys Glu	
40 45 50	
cac ggc aac tcc gtg tgc ttc aag gtg gac ggc ggt ggc ggc gag gag	246
His Gly Asn Ser Val Cys Phe Lys Val Asp Gly Gly Gly Gly Glu Glu	
55 60 65	
ccg gcg ggg ggc ttc gaa gac gcc gag ggg ccc ccg ccg cag tac ggc	294
Pro Ala Gly Gly Phe Glu Asp Ala Glu Gly Pro Arg Arg Gln Tyr Gly	
70 75 80	
ttc atg cag agg cag ttc acc tcc atg ctg cag ccc ggg gtc aac aaa	342
Phe Met Gln Arg Gln Phe Thr Ser Met Leu Gln Pro Gly Val Asn Lys	
85 90 95 100	
ttc tcc ctg cgc atg ttt ggg agc cag aag gcg gtg gaa aag gag cag	390
Phe Ser Leu Arg Met Phe Gly Ser Gln Lys Ala Val Glu Lys Glu Gln	
105 110 115	
gaa agg gtt aaa act gca ggc ttc tgg att atc cac cct tac agt gat	438
Glu Arg Val Lys Thr Ala Gly Phe Trp Ile Ile His Pro Tyr Ser Asp	
120 125 130	
ttc agg ttt tac tgg gat tta ata atg ctt ata atg atg gtt gga aat	486
Phe Arg Phe Tyr Trp Asp Leu Ile Met Leu Ile Met Met Val Gly Asn	
135 140 145	
cta gtc atc ata cca gtt gga atc aca ttc ttt aca gag caa aca aca	534
Leu Val Ile Ile Pro Val Gly Ile Thr Phe Phe Thr Glu Gln Thr Thr	
150 155 160	
aca cca tgg att att ttc aat gtg gcg tca gat aca gtt ttc cta ttg	582
Thr Pro Trp Ile Ile Phe Asn Val Ala Ser Asp Thr Val Phe Leu Leu	
165 170 175 180	
gac ctg atc atg aat ttt agg act ggg act gtc aat gaa gac agt tct	630
Asp Leu Ile Met Asn Phe Arg Thr Gly Thr Val Asn Glu Asp Ser Ser	
185 190 195	
gaa atc atc ctg gac ccc aaa gtg atc aag atg aat tat tta aaa agc	678
Glu Ile Ile Leu Asp Pro Lys Val Ile Lys Met Asn Tyr Leu Lys Ser	
200 205 210	
tgg ttt gtg gtt gac ttc atc tca tcc atc cca gtg gat tat atc ttt	726

Trp	Phe	Val	Val	Asp	Phe	Ile	Ser	Ser	Ile	Pro	Val	Asp	Tyr	Ile	Phe	
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ctt	att	gta	gaa	aaa	gga	atg	gat	tct	gaa	gtt	tac	aag	aca	gcc	agg	774
Leu	Ile	Val	Glu	Lys	Gly	Met	Asp	Ser	Glu	Val	Tyr	Lys	Thr	Ala	Arg	
		230				235					240					
gcm	ctt	cgc	att	gtg	agg	ttt	aca	aaa	att	ctc	agt	ctc	ttg	cgt	tta	822
Xaa	Leu	Arg	Ile	Val	Arg	Phe	Thr	Lys	Ile	Leu	Ser	Leu	Leu	Arg	Leu	
		245			250					255					260	
tta	cga	ctt	tca	agg	tta	att	aga	tac	ata	cat	caa	tgg	gaa	gag	ata	870
Leu	Arg	Leu	Ser	Arg	Leu	Ile	Arg	Tyr	Ile	His	Gln	Trp	Glu	Glu	Ile	
				265				270						275		
ttc	cac	atg	aca	tat	gat	ctc	gcc	agt	gca	gtg	gtg	aga	att	ttt	aat	918
Phe	His	Met	Thr	Tyr	Asp	Leu	Ala	Ser	Ala	Val	Val	Arg	Ile	Phe	Asn	
			280					285					290			
ctc	atc	ggc	atg	atg	ctg	ctc	ctg	tgc	cac	tgg	gat	ggt	tgt	ctt	cag	966
Leu	Ile	Gly	Met	Met	Leu	Leu	Leu	Cys	His	Trp	Asp	Gly	Cys	Leu	Gln	
		295					300					305				
ttc	tta	gta	cca	cta	ctg	cag	gac	ttc	cca	cca	gat	tgc	tgg	gtg	tct	1014
Phe	Leu	Val	Pro	Leu	Leu	Gln	Asp	Phe	Pro	Pro	Asp	Cys	Trp	Val	Ser	
		310				315					320					
tta	aat	gaa	atg	gtt	aat	gat	tct	tgg	gga	aag	cag	tat	tca	tac	gca	1062
Leu	Asn	Glu	Met	Val	Asn	Asp	Ser	Trp	Gly	Lys	Gln	Tyr	Ser	Tyr	Ala	
		325			330					335					340	
ctc	ttc	aaa	gct	atg	agt	cac	atg	ctg	tgc	att	ggg	tat	gga	gcc	caa	1110
Leu	Phe	Lys	Ala	Met	Ser	His	Met	Leu	Cys	Ile	Gly	Tyr	Gly	Ala	Gln	
				345					350					355		
gcc	cca	gtc	agc	atg	tct	gac	ctc	tgg	att	acc	atg	ctg	agc	atg	atc	1158
Ala	Pro	Val	Ser	Met	Ser	Asp	Leu	Trp	Ile	Thr	Met	Leu	Ser	Met	Ile	
			360					365					370			
gtc	ggg	gcc	acc	tgc	tat	gcc	atg	ttt	gtc	ggc	cat	gcc	acc	gct	tta	1206
Val	Gly	Ala	Thr	Cys	Tyr	Ala	Met	Phe	Val	Gly	His	Ala	Thr	Ala	Leu	
		375					380					385				
atc	cag	tct	ctg	gat	tct	tcg	agg	cgg	cag	tat	caa	gag	aag	tat	aag	1254
Ile	Gln	Ser	Leu	Asp	Ser	Ser	Arg	Arg	Gln	Tyr	Gln	Glu	Lys	Tyr	Lys	
		390				395					400					
caa	gtg	gaa	caa	tac	atg	tca	ttc	cat	aag	tta	cca	gct	gat	atg	cgt	1302
Gln	Val	Glu	Gln	Tyr	Met	Ser	Phe	His	Lys	Leu	Pro	Ala	Asp	Met	Arg	
					410					415					420	
cag	aag	ata	cat	gat	tac	tat	gaa	cac	aga	tac	caa	ggc	aaa	atc	ttt	1350
Gln	Lys	Ile	His	Asp	Tyr	Tyr	Glu	His	Arg	Tyr	Gln	Gly	Lys	Ile	Phe	
				425					430					435		
gat	gag	gaa	aat	att	ctc	aat	gaa	ctc	aat	gat	cct	ctg	aga	gag	gag	1398
Asp	Glu	Glu	Asn	Ile	Leu	Asn	Glu	Leu	Asn	Asp	Pro	Leu	Arg	Glu	Glu	
			440					445					450			
ata	gtc	aac	ttc	aac	tgt	cgg	aaa	ctg	gtg	gct	aca	atg	cct	tta	ttt	1446
Ile	Val	Asn	Phe	Asn	Cys	Arg	Lys	Leu	Val	Ala	Thr	Met	Pro	Leu	Phe	
		455					460					465				

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Phe Glu Val Phe Gln Pro Gly Asp Tyr Ile Ile Arg Glu Gly Ala Val	
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Gly Lys Lys Met Tyr Phe Ile Gln His Gly Val Ala Gly Val Ile Thr	
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Lys Ser Ser Lys Glu Met Lys Leu Thr Asp Gly Ser Tyr Phe Gly Glu	
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Ile Cys Leu Leu Thr Lys Gly Arg Arg Thr Ala Ser Val Arg Ala Asp	
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Thr Tyr Cys Arg Leu Tyr Ser Leu Ser Val Asp Asn Phe Asn Glu Val	
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Leu Glu Glu Tyr Pro Met Met Arg Arg Ala Phe Glu Thr Val Ala Ile	
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Asp Arg Leu Asp Arg Ile Gly Lys Lys Asn Ser Ile Leu Leu Gln Lys	
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Phe Gln Lys Asp Leu Asn Thr Gly Val Phe Asn Asn Gln Glu Asn Glu	
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Ile Leu Lys Gln Ile Val Lys His Asp Arg Glu Met Val Gln Ala Ile	
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Ala Pro Ile Asn Tyr Pro Gln Met Thr Thr Leu Asn Ser Thr Ser Ser	
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Thr Ala Thr Ser Leu Ser His Ser Asn Leu His Ser Pro Ser Pro Ser	
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Thr Gln Thr Pro Gln Pro Ser Ala Ile Leu Ser Pro Cys Ser Tyr Thr	
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Phe	His	Tyr	Ala	Ser	Pro	Thr	Ala	Ser	Gln	Leu	Ser	Leu	Met	Gln	Gln		
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Asn	Glu	Val	His	Lys	Ser	Thr	Gln	Ala	Leu	His	Asn	Thr	Asn	Leu	Thr		
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Arg	Glu	Val	Arg	Pro	Leu	Ser	Ala	Ser	Gln	Pro	Ser	Leu	Pro	His	Glu		
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gtg	tcc	act	ctg	att	tcc	aga	cct	cat	ccc	act	gtg	ggc	gag	tcc	ctg	2454	
Val	Ser	Thr	Leu	Ile	Ser	Arg	Pro	His	Pro	Thr	Val	Gly	Glu	Ser	Leu		
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Ala	Ser	Ile	Pro	Gln	Pro	Val	Thr	Ala	Val	Pro	Gly	Thr	Gly	Leu	Gln		
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Met	Ser	Ser	Gly	Ala	Ile	Pro	Pro	Asn	Arg	Gly	Val	Pro	Pro	Ala	Pro		
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Pro	Pro	Pro	Ala	Ala	Ala	Leu	Pro	Arg	Glu	Ser	Ser	Ser	Val	Leu	Asn		
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Thr	Asp	Pro	Asp	Ala	Glu	Lys	Pro	Arg	Phe	Ala	Ser	Asn	Leu	*			
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 Gly Ala Lys Glu His Gly Asn Ser Val Cys Phe Lys Val Asp Gly Gly
 50 55 60
 Gly Gly Glu Glu Pro Ala Gly Gly Phe Glu Asp Ala Glu Gly Pro Arg
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 Arg Gln Tyr Gly Phe Met Gln Arg Gln Phe Thr Ser Met Leu Gln Pro
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 Gly Val Asn Lys Phe Ser Leu Arg Met Phe Gly Ser Gln Lys Ala Val
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 Glu Lys Glu Gln Glu Arg Val Lys Thr Ala Gly Phe Trp Ile Ile His
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 Pro Tyr Ser Asp Phe Arg Phe Tyr Trp Asp Leu Ile Met Leu Ile Met
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 Met Val Gly Asn Leu Val Ile Ile Pro Val Gly Ile Thr Phe Phe Thr
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 Glu Gln Thr Thr Thr Pro Trp Ile Ile Phe Asn Val Ala Ser Asp Thr
 165 170 175
 Val Phe Leu Leu Asp Leu Ile Met Asn Phe Arg Thr Gly Thr Val Asn
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 Glu Asp Ser Ser Glu Ile Ile Leu Asp Pro Lys Val Ile Lys Met Asn
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 Tyr Leu Lys Ser Trp Phe Val Val Asp Phe Ile Ser Ser Ile Pro Val
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 Asp Tyr Ile Phe Leu Ile Val Glu Lys Gly Met Asp Ser Glu Val Tyr
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 Lys Thr Ala Arg Xaa Leu Arg Ile Val Arg Phe Thr Lys Ile Leu Ser
 245 250 255
 Leu Leu Arg Leu Leu Arg Leu Ser Arg Leu Ile Arg Tyr Ile His Gln
 260 265 270
 Trp Glu Glu Ile Phe His Met Thr Tyr Asp Leu Ala Ser Ala Val Val
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 Arg Ile Phe Asn Leu Ile Gly Met Met Leu Leu Leu Cys His Trp Asp
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 Gly Cys Leu Gln Phe Leu Val Pro Leu Leu Gln Asp Phe Pro Pro Asp
 305 310 315 320
 Cys Trp Val Ser Leu Asn Glu Met Val Asn Asp Ser Trp Gly Lys Gln
 325 330 335
 Tyr Ser Tyr Ala Leu Phe Lys Ala Met Ser His Met Leu Cys Ile Gly
 340 345 350
 Tyr Gly Ala Gln Ala Pro Val Ser Met Ser Asp Leu Trp Ile Thr Met
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Leu	Ser	Met	Ile	Val	Gly	Ala	Thr	Cys	Tyr	Ala	Met	Phe	Val	Gly	His		
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Ala	Asp	Met	Arg	Gln	Lys	Ile	His	Asp	Tyr	Tyr	Glu	His	Arg	Tyr	Gln		
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Gly	Lys	Ile	Phe	Asp	Glu	Glu	Asn	Ile	Leu	Asn	Glu	Leu	Asn	Asp	Pro		
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Leu	Arg	Glu	Glu	Ile	Val	Asn	Phe	Asn	Cys	Arg	Lys	Leu	Val	Ala	Thr		
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Met	Pro	Leu	Phe	Ala	Asn	Ala	Asp	Pro	Asn	Phe	Val	Thr	Ala	Met	Leu		
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Ser	Lys	Leu	Arg	Phe	Glu	Val	Phe	Gln	Pro	Gly	Asp	Tyr	Ile	Ile	Arg		
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Glu	Gly	Ala	Val	Gly	Lys	Lys	Met	Tyr	Phe	Ile	Gln	His	Gly	Val	Ala		
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Leu	Leu	Gln	Lys	Phe	Gln	Lys	Asp	Leu	Asn	Thr	Gly	Val	Phe	Asn	Asn		
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Gln	Glu	Asn	Glu	Ile	Leu	Lys	Gln	Ile	Val	Lys	His	Asp	Arg	Glu	Met		
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Pro	Ser	Pro	Ser	Thr	Gln	Thr	Pro	Gln	Pro	Ser	Ala	Ile	Leu	Ser	Pro		
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Cys	Ser	Tyr	Thr	Thr	Ala	Val	Cys	Ser	Pro	Pro	Val	Gln	Ser	Pro	Leu		
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Leu	Met	Gln	Gln	Gln	Pro	Gln	Gln	Gln	Val	Gln	Gln	Ser	Gln	Pro	Pro		
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Gln	Thr	Gln	Pro	Gln	Gln	Pro	Ser	Pro	Gln	Pro	Gln	Thr	Pro	Gly	Ser		
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Ser	Thr	Pro	Lys	Asn	Glu	Val	His	Lys	Ser	Thr	Gln	Ala	Leu	His	Asn		
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Thr	Asn	Leu	Thr	Arg	Glu	Val	Arg	Pro	Leu	Ser	Ala	Ser	Gln	Pro	Ser		
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Leu	Pro	His	Glu	Val	Ser	Thr	Leu	Ile	Ser	Arg	Pro	His	Pro	Thr	Val		
785					790					795					800		
Gly	Glu	Ser	Leu	Ala	Ser	Ile	Pro	Gln	Pro	Val	Thr	Ala	Val	Pro	Gly		
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Thr	Gly	Leu	Gln	Ala	Gly	Gly	Arg	Ser	Thr	Val	Pro	Gln	Arg	Val	Thr		
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Leu	Phe	Arg	Gln	Met	Ser	Ser	Gly	Ala	Ile	Pro	Pro	Asn	Arg	Gly	Val		
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Pro	Pro	Ala	Pro	Pro	Pro	Pro	Ala	Ala	Ala	Leu	Pro	Arg	Glu	Ser	Ser		
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 Arg Arg Ala Pro Leu Arg Arg Gly Val Gly Ser Ser Pro Arg Ala Arg
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agg ctc atg cgg ccc ctt tgg ttg ctc ctc gca gtg ggc gtc ttt gac 149
 Arg Leu Met Arg Pro Leu Trp Leu Leu Leu Ala Val Gly Val Phe Asp
 25 30 35

tgg gca ggg gct tcg gac ggc ggc ggc gga gag gct aga gcc atg gac 197
 Trp Ala Gly Ala Ser Asp Gly Gly Gly Gly Glu Ala Arg Ala Met Asp
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 Glu Glu Ile Val Ser Glu Lys Gln Ala Glu Glu Ser His Arg Gln Asp
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 Ser Ala Asn Leu Leu Ile Phe Ile Leu Leu Leu Thr Leu Thr Ile Leu
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 Thr Ile Trp Leu Phe Lys His Arg Arg Ala Arg Phe Leu His Glu Thr
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 Gly Leu Ala Met Ile Tyr Gly Leu Leu Val Gly Leu Val Leu Arg Tyr
 105 110 115

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 Gly Ile His Val Pro Ser Asp Val Asn Asn Val Thr Leu Ser Cys Glu
 120 125 130

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 Val Gln Ser Ser Pro Thr Thr Leu Leu Val Thr Phe Asp Pro Glu Val
 135 140 145 150

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 Phe Phe Asn Ile Leu Leu Pro Pro Ile Ile Phe Tyr Ala Gly Tyr Ser
 155 160 165

ctg aaa agg aga cat ttt ttt cga aat ctt ggg tct atc cta gca tac 581
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Tyr	Gly	Cys	Val	Thr	Leu	Met	Lys	Val	Thr	Gly	Gln	Leu	Ala	Gly	Asp	
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Asn	Ser	His	Thr	Phe	Asp	Val	Thr	Ala	Met	Phe	Lys	Ser	Ile	Gly	Ile	
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Leu	Leu	Glu	Thr	Gly	Leu	Phe	Phe	Leu	Met	Ser	Trp	Ser	Thr	Phe	Leu	
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Gln	His	Arg	Thr	Lys	Gln	Leu	Phe	Glu	Leu	Leu	Asn	Phe	Leu	Ala	Glu	
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Asn	Phe	Ile	Phe	Ser	Tyr	Met	Gly	Leu	Thr	Leu	Phe	Thr	Phe	Gln	Asn	
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His	Val	Phe	Asn	Pro	Thr	Phe	Val	Val	Gly	Ala	Phe	Val	Ala	Ile	Phe	
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Ala Thr Tyr Ala Arg Gln Met Met Phe Ser Thr Thr Leu Leu Ile Val	
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Cys Leu His Ile Arg Val Gly Val Asp Ser Asp Gln Glu His Leu Gly	
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		740						745					750						
Ile	Gln	Glu	Gly	Leu	Glu	Gly	Asp	Glu	Ser										
	755						760												

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 <213> Homo Sapiens

<220>
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 cgccggccac cgggcggcag gggcctagct gcggagcccc gcgcccgaga gcggcgggta 180
 aggagccgcg ggagccggcg aggcgtcggg gcgcgcagag gagcgcccct gcccgggcac 240
 ccgctggggc acgggactcg cgtgtggcct gagcgccggg gaggaggcgg aggcgcccct 300
 ctgtccgggc tctgggaagg caacgagggg ctctgcgaag gcggcgaggg gctccgcggc 360
 ggcccggac ccctggccac cactctcacg ctctgctcc cgccgggggg atgtcgtggc 420
 ccgggccccg agcgccgcc cgccccggg gctgagctcc ggacc atg tcc tcc cgc 477
 Met Ser Ser Arg
 1

agc	ccc	egg	ccc	ccg	ccc	cgc	cgt	agc	cgc	cgc	cgc	ctg	ccg	cgc	ccc	525
Ser	Pro	Arg	Pro	Pro	Pro	Arg	Arg	Ser	Arg	Arg	Arg	Leu	Pro	Arg	Pro	
5					10					15					20	

tcc	tgc	tgc	tgc	tgc	tgc	tgc	cgc	cgt	tgc	cac	ctc	aac	gag	gac	acc	573
Ser	Cys	Cys	Cys	Cys	Cys	Cys	Arg	Arg	Ser	His	Leu	Asn	Glu	Asp	Thr	
				25						30					35	

ggc	cgc	ttc	gtg	ctg	ctg	gcg	gcg	ctc	atc	ggc	ctc	tac	ctg	gtg	gcg	621
Gly	Arg	Phe	Val	Leu	Leu	Ala	Ala	Leu	Ile	Gly	Leu	Tyr	Leu	Val	Ala	
			40					45					50			

ggt	gcc	aca	gtc	ttc	tgc	gcg	ctc	gag	agc	ccc	ggc	gag	gcg	gag	gcg	669
Gly	Ala	Thr	Val	Phe	Ser	Ala	Leu	Glu	Ser	Pro	Gly	Glu	Ala	Glu	Ala	
		55					60					65				

cgg gcg cgc tgg ggc gcc acg ctg cgc aac ttc agc gct gcg cac ggc	717
Arg Ala Arg Trp Gly Ala Thr Leu Arg Asn Phe Ser Ala Ala His Gly	
70 75 80	
gtg gcc gag cca gag ctg cgc gcc ttc ctc cgg cac tac gag gcc gcg	765
Val Ala Glu Pro Glu Leu Arg Ala Phe Leu Arg His Tyr Glu Ala Ala	
85 90 95 100	
ctg gcc gcc ggc gtc cgc gcc gac gcg ctg cgc ccg cgc tgg gac ttc	813
Leu Ala Ala Gly Val Arg Ala Asp Ala Leu Arg Pro Arg Trp Asp Phe	
105 110 115	
ccc ggc gcc ttc tac ttc gtg ggc acc gtg gtg tca acc ata ggt ttc	861
Pro Gly Ala Phe Tyr Phe Val Gly Thr Val Val Ser Thr Ile Gly Phe	
120 125 130	
ggc atg acc acc ccc gcg acg gtg ggc ggg aag gcc ttc ctc atc gcc	909
Gly Met Thr Thr Pro Ala Thr Val Gly Gly Lys Ala Phe Leu Ile Ala	
135 140 145	
tac ggg ctg ttc ggc tgc gct ggg acc atc ctg ttc ttc aac ctc ttc	957
Tyr Gly Leu Phe Gly Cys Ala Gly Thr Ile Leu Phe Phe Asn Leu Phe	
150 155 160	
ctg gag cgc atc atc tcg ctg ctg gcc ttc atc atg cgc gcc tgc cgg	1005
Leu Glu Arg Ile Ile Ser Leu Leu Ala Phe Ile Met Arg Ala Cys Arg	
165 170 175 180	
gag cgc cag ctg cgc cgc agc ggc ctg ctg ccc gcc acc ttc cgc cgc	1053
Glu Arg Gln Leu Arg Arg Ser Gly Leu Leu Pro Ala Thr Phe Arg Arg	
185 190 195	
ggc tcc gcg ctc tcg gag gcc gac agc ctg gcg ggc tgg aag ccc tcg	1101
Gly Ser Ala Leu Ser Glu Ala Asp Ser Leu Ala Gly Trp Lys Pro Ser	
200 205 210	
gtg tac cac gtg ctg ctc atc ctg ggc ctg ttc gcc gtg ctg ctg tcc	1149
Val Tyr His Val Leu Leu Ile Leu Gly Leu Phe Ala Val Leu Leu Ser	
215 220 225	
tgc tgc gcc tcg gcc atg tac acc agc gtg gag ggc tgg gac tac gtg	1197
Cys Cys Ala Ser Ala Met Tyr Thr Ser Val Glu Gly Trp Asp Tyr Val	
230 235 240	
gac tcg ctc tac ttc tgc ttc gtc acc ttc agc acc atc ggc ttc ggg	1245
Asp Ser Leu Tyr Phe Cys Phe Val Thr Phe Ser Thr Ile Gly Phe Gly	
245 250 255 260	
gac ctg gtg agc agc cag cac gcc gcc tac cgg aac cag ggg ctc tac	1293
Asp Leu Val Ser Ser Gln His Ala Ala Tyr Arg Asn Gln Gly Leu Tyr	
265 270 275	
cgc ctg ggc aac ttc ctc ttc atc ctg ctc ggc gtg tgc tgc att tac	1341
Arg Leu Gly Asn Phe Leu Phe Ile Leu Leu Gly Val Cys Cys Ile Tyr	
280 285 290	
tcg ctc ttc aac gtc atc tcc atc ctc atc aag cag gtg ctc aac tgg	1389
Ser Leu Phe Asn Val Ile Ser Ile Leu Ile Lys Gln Val Leu Asn Trp	
295 300 305	
atg ctg cgc aag ctg agc tgc cgc tgc tgc gcg cgc tgc tgc ccg gct	1437
Met Leu Arg Lys Leu Ser Cys Arg Cys Cys Ala Arg Cys Cys Pro Ala	

310	315	320	
cct ggc gcg ccc ctg gcc cgg cgc aat gcc atc acc cca ggc tcc cgg			1485
Pro Gly Ala Pro Leu Ala Arg Arg Asn Ala Ile Thr Pro Gly Ser Arg			
325	330	335	340
ctg cgc cgc cgc ctg gcc gcg ctc ggc gcc gac ccc gcg gcc cgc gac			1533
Leu Arg Arg Arg Leu Ala Ala Leu Gly Ala Asp Pro Ala Ala Arg Asp			
	345	350	355
agc gac gcc gag ggc cgc cgc ctc tcg ggc gag ctc atc tcc atg cgc			1581
Ser Asp Ala Glu Gly Arg Arg Leu Ser Gly Glu Leu Ile Ser Met Arg			
	360	365	370
gac ctc acg gcc tcc aac aag gtg tcg ctg gcg ctg ctg cag aag cag			1629
Asp Leu Thr Ala Ser Asn Lys Val Ser Leu Ala Leu Leu Gln Lys Gln			
	375	380	385
ctg tcg gag acg gcc aac ggc tac ccg cgc agc gtg tgc gtc aac acg			1677
Leu Ser Glu Thr Ala Asn Gly Tyr Pro Arg Ser Val Cys Val Asn Thr			
	390	395	400
cgc cag aac ggc ttc tcg ggc ggc gtg ggc gcg ctg ggc atc atg aac			1725
Arg Gln Asn Gly Phe Ser Gly Gly Val Gly Ala Leu Gly Ile Met Asn			
405	410	415	420
aac cgg ctg gcc gag acc agc gcc tcc agg tag accgcccgtc cgcccgcgcc			1778
Asn Arg Leu Ala Glu Thr Ser Ala Ser Arg *			
	425	430	
ggggaccctc tccaggccgc gggggccgccg ggcgtggttt gcttctctca gtcactgctg			1838
gcgctttctt aatctttatc caataaaatg aaacaaaaaa aattttttta aagaaaaaaa			1898
aaaaaaaaag ggcgatgtt atcaagggca ggttttgggg acgcc			1943

<210> 44
 <211> 430
 <212> PRT
 <213> Homo Sapiens

<400> 44

Met	Ser	Ser	Arg	Ser	Pro	Arg	Pro	Pro	Pro	Arg	Arg	Ser	Arg	Arg	Arg
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Leu	Pro	Arg	Pro	Ser	Cys	Cys	Cys	Cys	Cys	Cys	Arg	Arg	Ser	His	Leu
			20					25					30		
Asn	Glu	Asp	Thr	Gly	Arg	Phe	Val	Leu	Leu	Ala	Ala	Leu	Ile	Gly	Leu
		35				40						45			
Tyr	Leu	Val	Ala	Gly	Ala	Thr	Val	Phe	Ser	Ala	Leu	Glu	Ser	Pro	Gly
	50				55						60				
Glu	Ala	Glu	Ala	Arg	Ala	Arg	Trp	Gly	Ala	Thr	Leu	Arg	Asn	Phe	Ser
65				70					75					80	
Ala	Ala	His	Gly	Val	Ala	Glu	Pro	Glu	Leu	Arg	Ala	Phe	Leu	Arg	His
			85					90					95		
Tyr	Glu	Ala	Ala	Leu	Ala	Ala	Gly	Val	Arg	Ala	Asp	Ala	Leu	Arg	Pro
			100				105					110			
Arg	Trp	Asp	Phe	Pro	Gly	Ala	Phe	Tyr	Phe	Val	Gly	Thr	Val	Val	Ser
		115				120						125			
Thr	Ile	Gly	Phe	Gly	Met	Thr	Thr	Pro	Ala	Thr	Val	Gly	Gly	Lys	Ala
	130				135						140				
Phe	Leu	Ile	Ala	Tyr	Gly	Leu	Phe	Gly	Cys	Ala	Gly	Thr	Ile	Leu	Phe
145				150					155					160	
Phe	Asn	Leu	Phe	Leu	Glu	Arg	Ile	Ile	Ser	Leu	Leu	Ala	Phe	Ile	Met
			165					170					175		

Arg	Ala	Cys	Arg	Glu	Arg	Gln	Leu	Arg	Arg	Ser	Gly	Leu	Leu	Pro	Ala	
			180					185					190			
Thr	Phe	Arg	Arg	Gly	Ser	Ala	Leu	Ser	Glu	Ala	Asp	Ser	Leu	Ala	Gly	
		195					200					205				
Trp	Lys	Pro	Ser	Val	Tyr	His	Val	Leu	Leu	Ile	Leu	Gly	Leu	Phe	Ala	
	210					215					220					
Val	Leu	Leu	Ser	Cys	Cys	Ala	Ser	Ala	Met	Tyr	Thr	Ser	Val	Glu	Gly	
225				230						235					240	
Trp	Asp	Tyr	Val	Asp	Ser	Leu	Tyr	Phe	Cys	Phe	Val	Thr	Phe	Ser	Thr	
			245						250					255		
Ile	Gly	Phe	Gly	Asp	Leu	Val	Ser	Ser	Gln	His	Ala	Ala	Tyr	Arg	Asn	
		260						265					270			
Gln	Gly	Leu	Tyr	Arg	Leu	Gly	Asn	Phe	Leu	Phe	Ile	Leu	Leu	Gly	Val	
	275						280					285				
Cys	Cys	Ile	Tyr	Ser	Leu	Phe	Asn	Val	Ile	Ser	Ile	Leu	Ile	Lys	Gln	
	290					295					300					
Val	Leu	Asn	Trp	Met	Leu	Arg	Lys	Leu	Ser	Cys	Arg	Cys	Cys	Ala	Arg	
305				310						315					320	
Cys	Cys	Pro	Ala	Pro	Gly	Ala	Pro	Leu	Ala	Arg	Arg	Asn	Ala	Ile	Thr	
			325						330					335		
Pro	Gly	Ser	Arg	Leu	Arg	Arg	Arg	Leu	Ala	Ala	Leu	Gly	Ala	Asp	Pro	
		340						345					350			
Ala	Ala	Arg	Asp	Ser	Asp	Ala	Glu	Gly	Arg	Arg	Leu	Ser	Gly	Glu	Leu	
	355					360						365				
Ile	Ser	Met	Arg	Asp	Leu	Thr	Ala	Ser	Asn	Lys	Val	Ser	Leu	Ala	Leu	
	370				375						380					
Leu	Gln	Lys	Gln	Leu	Ser	Glu	Thr	Ala	Asn	Gly	Tyr	Pro	Arg	Ser	Val	
385				390						395					400	
Cys	Val	Asn	Thr	Arg	Gln	Asn	Gly	Phe	Ser	Gly	Gly	Val	Gly	Ala	Leu	
			405					410						415		
Gly	Ile	Met	Asn	Asn	Arg	Leu	Ala	Glu	Thr	Ser	Ala	Ser	Arg			
		420						425					430			

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 <211> 2384
 <212> DNA
 <213> Homo Sapiens

<220>
 <221> CDS
 <222> (233)...(2260)

<400> 45
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 gaggaagggg cactgctgtc tccggaagct cttggctgca aagagagagg atcccgggta 120
 tctccctcct tacaaccacc gccacctcct agtgccttag aagccactga cagccccag 180
 ggcaggtgag ccctgcatct ggaataagga tccagaggctc tcgttcagga cc atg gag 238
 Met Glu
 1

agc ggc acc agc agc cct cag cct cca cag tta gat ccc ctg gat gcg 286
 Ser Gly Thr Ser Ser Pro Gln Pro Pro Gln Leu Asp Pro Leu Asp Ala
 5 10 15

ttt ccc cag aag ggc ttg gag cct ggg gac atc gcg gtg cta gtt ctg 334
 Phe Pro Gln Lys Gly Leu Glu Pro Gly Asp Ile Ala Val Leu Val Leu
 20 25 30

tac ttc ctc ttt gtc ctg gct gtt gga cta tgg tcc aca gtg aag acc 382
 Tyr Phe Leu Phe Val Leu Ala Val Gly Leu Trp Ser Thr Val Lys Thr
 35 40 45 50

aaa aga gac aca gtg aaa ggc tac ttc ctg gct gga ggg gac atg gtg	430
Lys Arg Asp Thr Val Lys Gly Tyr Phe Leu Ala Gly Gly Asp Met Val	
55 60 65	
tgg tgg cca gtg ggt gca tcc ttg ttt gcc agc aat gtt gga agt gga	478
Trp Trp Pro Val Gly Ala Ser Leu Phe Ala Ser Asn Val Gly Ser Gly	
70 75 80	
cat ttc att ggc ctg gca ggg tca ggt gct gct acg ggc att tct gta	526
His Phe Ile Gly Leu Ala Gly Ser Gly Ala Ala Thr Gly Ile Ser Val	
85 90 95	
tca gct tat gaa ctt aat ggc ttg ttt tct gtg ctg atg ttg gcc tgg	574
Ser Ala Tyr Glu Leu Asn Gly Leu Phe Ser Val Leu Met Leu Ala Trp	
100 105 110	
atc ttc cta ccc atc tac att gct ggt cag gtc acc acg atg cca gaa	622
Ile Phe Leu Pro Ile Tyr Ile Ala Gly Gln Val Thr Thr Met Pro Glu	
115 120 125 130	
tac cta cgg aag cgc ttc ggt ggc atc aga atc ccc atc atc ctg gct	670
Tyr Leu Arg Lys Arg Phe Gly Gly Ile Arg Ile Pro Ile Ile Leu Ala	
135 140 145	
gta ctc tac cta ttt atc tac atc ttc acc aag atc tcg gta gac atg	718
Val Leu Tyr Leu Phe Ile Tyr Ile Phe Thr Lys Ile Ser Val Asp Met	
150 155 160	
tat gca ggt gcc atc ttc atc cag cag tct ttg cac ctg gat ctg tac	766
Tyr Ala Gly Ala Ile Phe Ile Gln Gln Ser Leu His Leu Asp Leu Tyr	
165 170 175	
ctg gcc ata gtt ggg cta ctg gcc atc act gct gta tac acg gtt gct	814
Leu Ala Ile Val Gly Leu Leu Ala Ile Thr Ala Val Tyr Thr Val Ala	
180 185 190	
ggt ggc ctg gct gct gtg atc tac acg gat gcc ctg cag acg ctg atc	862
Gly Gly Leu Ala Ala Val Ile Tyr Thr Asp Ala Leu Gln Thr Leu Ile	
195 200 205 210	
atg ctt ata gga gcg ctc acc ttg atg ggc tac agt ttt gcc gcg gtt	910
Met Leu Ile Gly Ala Leu Thr Leu Met Gly Tyr Ser Phe Ala Ala Val	
215 220 225	
ggt ggg atg gaa gga ctg aag gag aag tac ttc ttg gcc ctg gct agc	958
Gly Gly Met Glu Gly Leu Lys Glu Lys Tyr Phe Leu Ala Leu Ala Ser	
230 235 240	
aac cgg agt gag aac agc agc tgc ggg ctg ccc cgg gaa gat gcc ttc	1006
Asn Arg Ser Glu Asn Ser Ser Cys Gly Leu Pro Arg Glu Asp Ala Phe	
245 250 255	
cat att ttc cga gat ccg ctg aca tct gat ctc ccg tgg ccg ggg gtc	1054
His Ile Phe Arg Asp Pro Leu Thr Ser Asp Leu Pro Trp Pro Gly Val	
260 265 270	
cta ttt gga atg tcc atc cca tcc ctc tgg tac tgg tgc acg gat cag	1102
Leu Phe Gly Met Ser Ile Pro Ser Leu Trp Tyr Trp Cys Thr Asp Gln	
275 280 285 290	
gtg att gtc cag ccg act ctg gct gcc aag aac ctg tcc cat gcc aaa	1150

Val	Ile	Val	Gln	Arg	Thr	Leu	Ala	Ala	Lys	Asn	Leu	Ser	His	Ala	Lys	
				295					300					305		
gga	ggt	gct	ctg	atg	gct	gca	tac	ctg	aag	gtg	ctg	ccc	ctc	ttc	ata	1198
Gly	Gly	Ala	Leu	Met	Ala	Ala	Tyr	Leu	Lys	Val	Leu	Pro	Leu	Phe	Ile	
			310					315					320			
atg	gtg	ttc	cct	ggg	atg	gtc	agc	cgc	atc	ctc	ttc	cca	gat	caa	gtg	1246
Met	Val	Phe	Pro	Gly	Met	Val	Ser	Arg	Ile	Leu	Phe	Pro	Asp	Gln	Val	
		325					330					335				
gcc	tgt	gca	gat	cca	gag	atc	tgc	cag	aag	atc	tgc	agc	aac	ccc	tca	1294
Ala	Cys	Ala	Asp	Pro	Glu	Ile	Cys	Gln	Lys	Ile	Cys	Ser	Asn	Pro	Ser	
	340					345					350					
ggc	tgt	tcg	gac	atc	gcg	tat	ccc	aaa	ctc	gtg	ctg	gaa	ctc	ctg	ccc	1342
Gly	Cys	Ser	Asp	Ile	Ala	Tyr	Pro	Lys	Leu	Val	Leu	Glu	Leu	Leu	Pro	
355					360					365					370	
aca	ggg	ctc	cgt	ggg	ctg	atg	atg	gct	gtg	atg	gtg	gcg	gct	ctc	atg	1390
Thr	Gly	Leu	Arg	Gly	Leu	Met	Met	Ala	Val	Met	Val	Ala	Ala	Leu	Met	
				375					380					385		
tcc	tcc	ctc	acc	tcc	atc	ttt	aac	agt	gcc	agc	acc	atc	ttc	acc	atg	1438
Ser	Ser	Leu	Thr	Ser	Ile	Phe	Asn	Ser	Ala	Ser	Thr	Ile	Phe	Thr	Met	
			390					395					400			
gac	ctc	tgg	aat	cac	ctc	cgg	cct	cgg	gca	tct	gag	aag	gag	ctc	atg	1486
Asp	Leu	Trp	Asn	His	Leu	Arg	Pro	Arg	Ala	Ser	Glu	Lys	Glu	Leu	Met	
		405					410					415				
att	gtg	ggc	agg	gtg	ttt	gtg	ctg	ctg	ctg	gtc	ctg	gtc	tcc	atc	ctc	1534
Ile	Val	Gly	Arg	Val	Phe	Val	Leu	Leu	Leu	Val	Leu	Val	Ser	Ile	Leu	
	420					425					430					
tgg	atc	cct	gtg	gtc	cag	gcc	agc	cag	ggc	ggc	cag	ctc	ttc	atc	tat	1582
Trp	Ile	Pro	Val	Val	Gln	Ala	Ser	Gln	Gly	Gly	Gln	Leu	Phe	Ile	Tyr	
435					440				445						450	
atc	cag	tcc	atc	agc	tcc	tac	ctg	cag	ccg	cct	gtg	gcg	gtg	gtc	ttc	1630
Ile	Gln	Ser	Ile	Ser	Ser	Tyr	Leu	Gln	Pro	Pro	Val	Ala	Val	Val	Phe	
				455					460					465		
atc	atg	gga	tgt	ttc	tgg	aag	agg	acc	aat	gaa	aag	ggt	gcc	ttc	tgg	1678
Ile	Met	Gly	Cys	Phe	Trp	Lys	Arg	Thr	Asn	Glu	Lys	Gly	Ala	Phe	Trp	
			470					475					480			
ggc	ctg	atc	tcg	ggc	ctg	ctc	ctg	ggc	ttg	gtt	agg	ctg	gtc	ctg	gac	1726
Gly	Leu	Ile	Ser	Gly	Leu	Leu	Leu	Gly	Leu	Val	Arg	Leu	Val	Leu	Asp	
			485				490					495				
ttt	att	tac	gtg	cag	cct	cga	tgc	gac	cag	cca	gat	gag	cgc	ccg	gtc	1774
Phe	Ile	Tyr	Val	Gln	Pro	Arg	Cys	Asp	Gln	Pro	Asp	Glu	Arg	Pro	Val	
	500					505					510					
ctg	gtg	aag	agc	att	cac	tac	ctc	tac	ttc	tcc	atg	atc	ctg	tcc	acg	1822
Leu	Val	Lys	Ser	Ile	His	Tyr	Leu	Tyr	Phe	Ser	Met	Ile	Leu	Ser	Thr	
515					520				525						530	
gtc	acc	ctc	atc	act	gtc	tcc	acc	gtg	agc	tgg	ttc	aca	gag	cca	ccc	1870
Val	Thr	Leu	Ile	Thr	Val	Ser	Thr	Val	Ser	Trp	Phe	Thr	Glu	Pro	Pro	
				535					540					545		

tcc aag gag atg gtc agc cac ctg acc tgg ttt act cgt cac gac ccc	1918
Ser Lys Glu Met Val Ser His Leu Thr Trp Phe Thr Arg His Asp Pro	
550 555 560	
gtg gtc cag aag gaa caa gca cca cca gca gct ccc ttg tct ctt acc	1966
Val Val Gln Lys Glu Gln Ala Pro Pro Ala Ala Pro Leu Ser Leu Thr	
565 570 575	
ctc tct cag aac ggg atg cca gag gcc agc agc agc agc agc gtc cag	2014
Leu Ser Gln Asn Gly Met Pro Glu Ala Ser Ser Ser Ser Ser Val Gln	
580 585 590	
ttc gag atg gtt caa gaa aac acg tct aaa acc cac agc tgt gac atg	2062
Phe Glu Met Val Gln Glu Asn Thr Ser Lys Thr His Ser Cys Asp Met	
595 600 605 610	
acc cca aag cag tcc aaa gtg gtg aag gcc atc ctg tgg ctc tgt gga	2110
Thr Pro Lys Gln Ser Lys Val Val Lys Ala Ile Leu Trp Leu Cys Gly	
615 620 625	
ata cag gag aag ggc aag gaa gag ctc ccg gcc aga gca gaa gcc atc	2158
Ile Gln Glu Lys Gly Lys Glu Glu Leu Pro Ala Arg Ala Glu Ala Ile	
630 635 640	
ata gtt tcc ctg gaa gaa aac ccc ttg gtg aag acc ctc ctg gac gtc	2206
Ile Val Ser Leu Glu Glu Asn Pro Leu Val Lys Thr Leu Leu Asp Val	
645 650 655	
aac ctc att ttc tgc gtg agc tgc gcc atc ttt atc tgg ggc tat ttt	2254
Asn Leu Ile Phe Cys Val Ser Cys Ala Ile Phe Ile Trp Gly Tyr Phe	
660 665 670	
gct tag tgtgggggtga acccaggggt ccaaactctg tttctcttca gtgctccatt	2310
Ala *	
675	
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Asp Ala Phe Pro Gln Lys Gly Leu Glu Pro Gly Asp Ile Ala Val Leu	
20 25 30	
Val Leu Tyr Phe Leu Phe Val Leu Ala Val Gly Leu Trp Ser Thr Val	
35 40 45	
Lys Thr Lys Arg Asp Thr Val Lys Gly Tyr Phe Leu Ala Gly Gly Asp	
50 55 60	
Met Val Trp Trp Pro Val Gly Ala Ser Leu Phe Ala Ser Asn Val Gly	
65 70 75 80	
Ser Gly His Phe Ile Gly Leu Ala Gly Ser Gly Ala Ala Thr Gly Ile	
85 90 95	
Ser Val Ser Ala Tyr Glu Leu Asn Gly Leu Phe Ser Val Leu Met Leu	
100 105 110	
Ala Trp Ile Phe Leu Pro Ile Tyr Ile Ala Gly Gln Val Thr Thr Met	
115 120 125	

Pro	Glu	Tyr	Leu	Arg	Lys	Arg	Phe	Gly	Gly	Ile	Arg	Ile	Pro	Ile	Ile	130	135	140
Leu	Ala	Val	Leu	Tyr	Leu	Phe	Ile	Tyr	Ile	Phe	Thr	Lys	Ile	Ser	Val	145	150	155
Asp	Met	Tyr	Ala	Gly	Ala	Ile	Phe	Ile	Gln	Gln	Ser	Leu	His	Leu	Asp	165	170	175
Leu	Tyr	Leu	Ala	Ile	Val	Gly	Leu	Leu	Ala	Ile	Thr	Ala	Val	Tyr	Thr	180	185	190
Val	Ala	Gly	Gly	Leu	Ala	Ala	Val	Ile	Tyr	Thr	Asp	Ala	Leu	Gln	Thr	195	200	205
Leu	Ile	Met	Leu	Ile	Gly	Ala	Leu	Thr	Leu	Met	Gly	Tyr	Ser	Phe	Ala	210	215	220
Ala	Val	Gly	Gly	Met	Glu	Gly	Leu	Lys	Glu	Lys	Tyr	Phe	Leu	Ala	Leu	225	230	235
Ala	Ser	Asn	Arg	Ser	Glu	Asn	Ser	Ser	Cys	Gly	Leu	Pro	Arg	Glu	Asp	245	250	255
Ala	Phe	His	Ile	Phe	Arg	Asp	Pro	Leu	Thr	Ser	Asp	Leu	Pro	Trp	Pro	260	265	270
Gly	Val	Leu	Phe	Gly	Met	Ser	Ile	Pro	Ser	Leu	Trp	Tyr	Trp	Cys	Thr	275	280	285
Asp	Gln	Val	Ile	Val	Gln	Arg	Thr	Leu	Ala	Ala	Lys	Asn	Leu	Ser	His	290	295	300
Ala	Lys	Gly	Gly	Ala	Leu	Met	Ala	Ala	Tyr	Leu	Lys	Val	Leu	Pro	Leu	305	310	315
Phe	Ile	Met	Val	Phe	Pro	Gly	Met	Val	Ser	Arg	Ile	Leu	Phe	Pro	Asp	325	330	335
Gln	Val	Ala	Cys	Ala	Asp	Pro	Glu	Ile	Cys	Gln	Lys	Ile	Cys	Ser	Asn	340	345	350
Pro	Ser	Gly	Cys	Ser	Asp	Ile	Ala	Tyr	Pro	Lys	Leu	Val	Leu	Glu	Leu	355	360	365
Leu	Pro	Thr	Gly	Leu	Arg	Gly	Leu	Met	Met	Ala	Val	Met	Val	Ala	Ala	370	375	380
Leu	Met	Ser	Ser	Leu	Thr	Ser	Ile	Phe	Asn	Ser	Ala	Ser	Thr	Ile	Phe	385	390	395
Thr	Met	Asp	Leu	Trp	Asn	His	Leu	Arg	Pro	Arg	Ala	Ser	Glu	Lys	Glu	405	410	415
Leu	Met	Ile	Val	Gly	Arg	Val	Phe	Val	Leu	Leu	Leu	Val	Leu	Val	Ser	420	425	430
Ile	Leu	Trp	Ile	Pro	Val	Val	Gln	Ala	Ser	Gln	Gly	Gly	Gln	Leu	Phe	435	440	445
Ile	Tyr	Ile	Gln	Ser	Ile	Ser	Ser	Tyr	Leu	Gln	Pro	Pro	Val	Ala	Val	450	455	460
Val	Phe	Ile	Met	Gly	Cys	Phe	Trp	Lys	Arg	Thr	Asn	Glu	Lys	Gly	Ala	465	470	475
Phe	Trp	Gly	Leu	Ile	Ser	Gly	Leu	Leu	Leu	Gly	Leu	Val	Arg	Leu	Val	485	490	495
Leu	Asp	Phe	Ile	Tyr	Val	Gln	Pro	Arg	Cys	Asp	Gln	Pro	Asp	Glu	Arg	500	505	510
Pro	Val	Leu	Val	Lys	Ser	Ile	His	Tyr	Leu	Tyr	Phe	Ser	Met	Ile	Leu	515	520	525
Ser	Thr	Val	Thr	Leu	Ile	Thr	Val	Ser	Thr	Val	Ser	Trp	Phe	Thr	Glu	530	535	540
Pro	Pro	Ser	Lys	Glu	Met	Val	Ser	His	Leu	Thr	Trp	Phe	Thr	Arg	His	545	550	555
Asp	Pro	Val	Val	Gln	Lys	Glu	Gln	Ala	Pro	Pro	Ala	Ala	Pro	Leu	Ser	565	570	575
Leu	Thr	Leu	Ser	Gln	Asn	Gly	Met	Pro	Glu	Ala	Ser	Ser	Ser	Ser	Ser	580	585	590
Val	Gln	Phe	Glu	Met	Val	Gln	Glu	Asn	Thr	Ser	Lys	Thr	His	Ser	Cys	595	600	605
Asp	Met	Thr	Pro	Lys	Gln	Ser	Lys	Val	Val	Lys	Ala	Ile	Leu	Trp	Leu	610	615	620

Cys	Gly	Ile	Gln	Glu	Lys	Gly	Lys	Glu	Glu	Leu	Pro	Ala	Arg	Ala	Glu
625					630					635					640
Ala	Ile	Ile	Val	Ser	Leu	Glu	Glu	Asn	Pro	Leu	Val	Lys	Thr	Leu	Leu
				645					650					655	
Asp	Val	Asn	Leu	Ile	Phe	Cys	Val	Ser	Cys	Ala	Ile	Phe	Ile	Trp	Gly
			660					665						670	
Tyr	Phe	Ala													
		675													